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THE INLAND ARCHITECT AND NEWS RECORD

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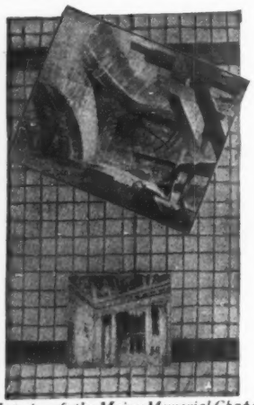

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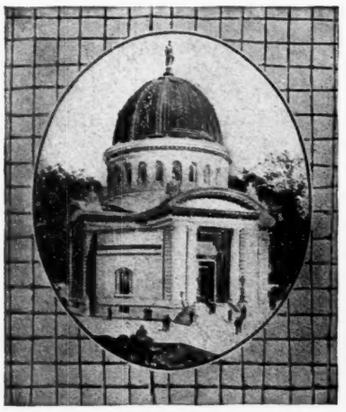

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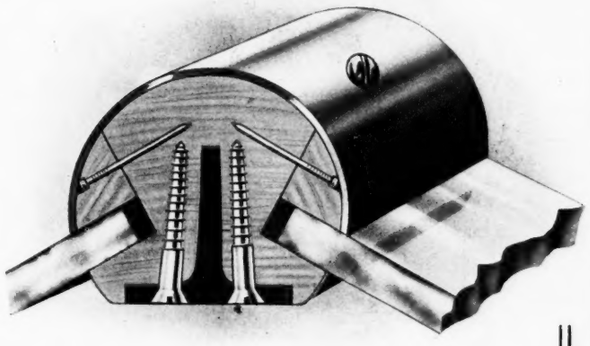

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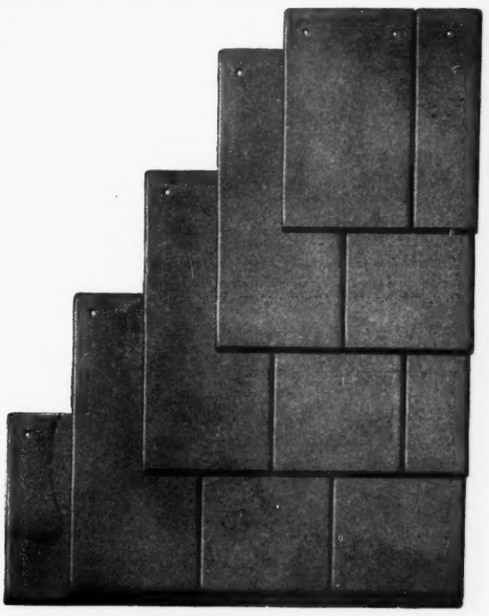

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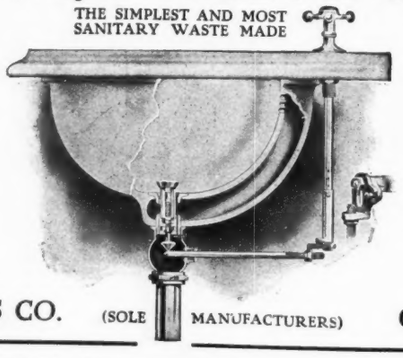

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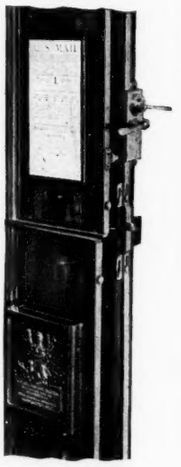

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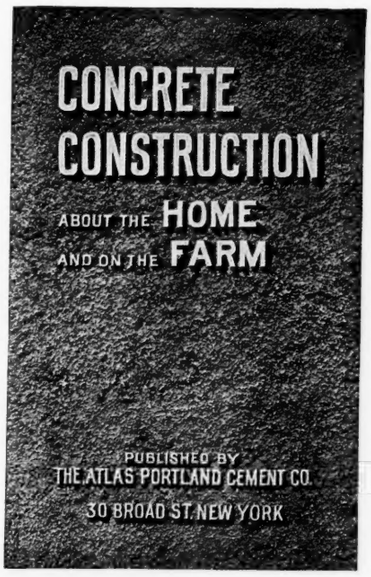

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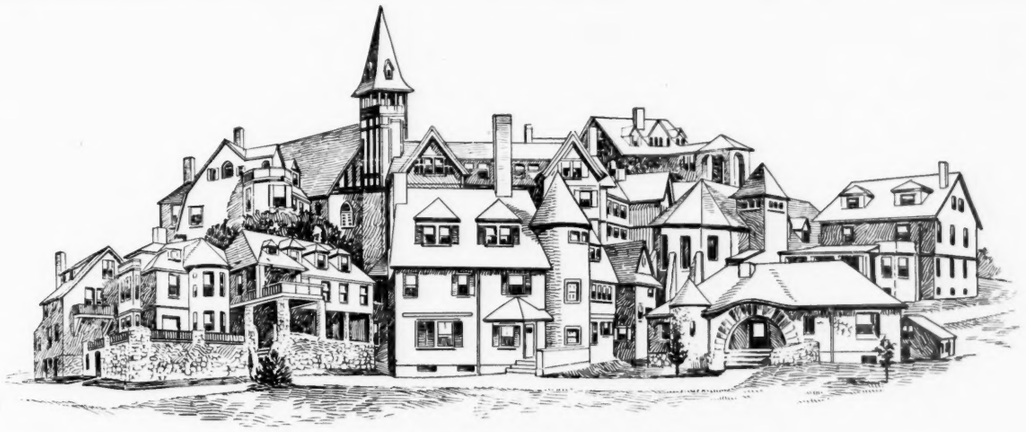

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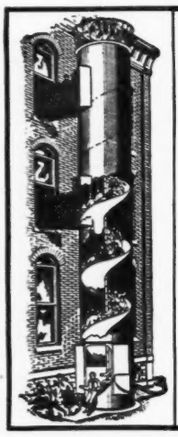

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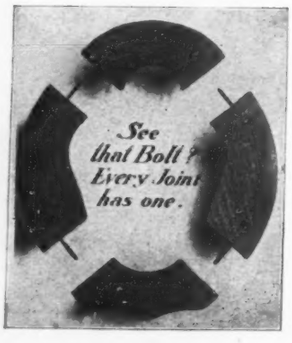

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Is the A. I. A. Schedule of Charges Too Low?

Frequent complaints are made by architects that the minimum charges established by the Institute and sustained by legal decisions are inadequate for the services rendered and should be revised. It is contended that the minimum charges fixed by the schedule represent, as a rule, the maximum commissions that are obtained on work of all classes and that if architects in general are to receive more just compensation the minimum rates must be advanced. In the able and comprehensive contribution commenced last month and completed in this number of THE INLAND ARCHITECT, Glenn Brown, secretary, A. I. A., compares the services rendered and remuneration received by European architects with the conditions in America. The author reaches the conclusion that in Europe the services of an architect are more appreciated and better paid than in America. The opening paragraphs of Mr. Brown's paper present a forcible statement of the time, study and expense that an architect must give to all work of importance, and the cause of architecture would gain much could this statement be brought to the consideration of clients and the daily press. In no country is the work of the architect as complicated as here. At no time in this country have an architect's office expenses been as great as now. In practically all other lines of endeavor the financial returns for service have steadily increased. From this it would appear logical that the architect should seek to establish a basis for remuneration that would more justly compensate him for the exacting duties and responsibilities of his profession. The building industries today are at high tide throughout the country, and now is the most favorable time for architects individually and collectively to seek to bring the schedule of charges more in keeping with present conditions.

Proper Credit to Architects.

At the last convention of the American Institute of Architects the subject of the signing of buildings by architects was considered of such importance that a committee was named with Merritt J. Reid as chairman to consider the advisability of such a practice and the best course for the A. I. A. to pursue regarding it; report to be made to the next convention. Previously THE INLAND ARCHITECT had invited opinions from architects on this subject. An unusual interest has been shown, and expressions have been received from representative architects of all sections. Some of these have been published in these columns, and a selection of others will appear in future numbers. Not one reply is unfavorable to the general question of signing buildings, but opinions naturally vary as to details. It is pointed out that in continental Europe it is the custom of architects to sign their buildings, and in France this is usually done by the incision of the name on the corner stone. One attractive suggestion is that there be placed on a tablet a monogram or ornamental device to indicate the designer. The suggestion of some that the architects' names appear on a tablet in connection with others concerned in the erection of the building is one that we think will not appeal favorably to the profession in general,

although this plan possibly would be more readily accepted by building boards and individual owners than any other. The placing of a temporary sign with the architect's name on an incompleted building or on a construction shed would seem to lack the dignity that would tend to elevate the profession of architecture in the estimation of the public.

The Effect of Signing Buildings.

The large majority of the replies received by us favor a suitable tablet located as is found most desirable on the inside or outside of the building, bearing the architect's name or device alone, and placed only upon permanent buildings of such character and importance as will reflect favorably upon the skill of the architect. Nearly all correspondents dwell upon the lack of appreciation of the services of the architect compared with that accorded the creations of the sculptor or painter. If the signing of buildings were general the architect undoubtedly would feel stimulated to do his best in all cases to produce a structure creditable to himself and the owner, and thus there would result a distinct benefit to the public and to architecture. The agitation alone of the subject to establish the custom of the signing of permanent buildings would be an important step in the education of the public to a better appreciation of architecture. The influence upon the daily press of arousing public interest would be seen in a more general practice of mentioning the architect in descriptions of buildings and he would no longer be the last person to be given prominence at dedicatory celebrations. This subject is one of fitting importance to come up for definite action by the convention that will mark the fiftieth anniversary of the organization of the American Institute of Architects.

The U. S. Bureau of Forestry.

The depletion of the forests is of such grave concern to the industries of the country that it is of interest to note the aims and progress of the National Bureau of Forestry. The Bureau points with considerable pride to past achievement; but feels that it is only on the threshold of its most important work. It has been found that the great forest problems are best met by practical field work. The Bureau co-operates with individuals by assistance and advice; it undertakes forest problems not possible by private enterprise; it assists and advises in the best use of national forest lands, and publishes and distributes its progress and conclusions. Assistance is given in the preparation of working plans, in tree planting and in ascertaining the best and most profitable methods for utilizing forest products. The Bureau has afforded valuable aid to the railroads through the development of preservative treatment for construction timbers and demonstration of the value to railroads of inferior woods. This work is of material help in lessening the drain upon the forests. In the line of independent investigation are included the problems that strongly affect the development of great interests and which are beyond the means or knowledge of the individual. Studies of commercial trees are conducted that are of much practical value to lumbermen. The prevention and control of forest fires have careful consideration with the view of decreasing this deplorable waste. Not the least important work of the Bureau are the tests conducted to determine the strength of commercial timbers. That the investigations of the Bureau may yield the greatest good bulletins, circulars and reports are issued for general distribution. One publication alone, The Primer of Forestry, has reached the issue of 250,000 copies. The Bureau is the chief factor in the forest movement that seeks to conserve the forest areas for the greatest ultimate good.

Fire Losses in the United States.

The annual fire losses in this country are a matter of endless surprise with the conservative nations of Europe, whose admiration of our energy and practical sagacity is equaled only by their wonder at our recklessness. With the most skilful builders in the world, with the most perfect machinery and with abundance of building materials and ample wealth, the final result is such universally inferior construction that our fire losses every year exceed the combined fire losses of the United Kingdom, France, Germany, Austria and Italy; and the International Society of State and Municipal Building Commissioners pleads for Fire Prevention Day, after the fashion of Arbor Day, which has done so much for forestry in the United States. It is said that out of 11,000,000,000 buildings in this country only 4,000 are decently fireproofed. Last year $500,000,000 worth of new buildings were erected here. In the same year $200,000,000 worth were burned up and $300,000,000 more went to support our elaborate fire departments. So, at the end of the year, we were nothing ahead, our fire bill and fire extinguisher bill having exactly matched our increase in the value of new buildings erected.

Responsibility of Fire Insurance Companies.

The fire insurance companies may be held responsible for this enormous loss to this extent that, if there were no fire insurance, there would not be half as many fires. In Massachusetts it is found that from one-third to one-half the fires are preventable (incendiarism or carelessness). In England, from 1852 to 1866, the "suspicious" fires rose from 34 per cent to over 52 per cent of the whole. Should we adopt the French plan and relieve underwriters of all liability to the party on whose premises a fire originates and also make such party liable in damages to any neighbor injured by a fire originating on his premises, does any one doubt that our annual conflagration bill would drop at once to French diminutiveness? Or, suppose we adopt the "average" plan which prevails in England, whereby a man can collect only such proportion of his loss as the sum insured bears to the full value of the property, i. e., if a man carries $50,000 insurance on $100,000 worth of property and has a loss of $5,000, all the indemnity he can collect is $2,500. This rule already prevails here in marine insurance; why not extend it to all fire risks?

Advantages of Fireproof Building.

One result of these methods of compelling property owners in their own interest so to build and so to care for their buildings as to prevent the occurrence of fires, is the superior solidity of construction which all travelers remark on the continent. Another result is the very low cost of fire insurance in Europe, and still another is the solidity and prosperity of foreign insurance companies. It is said that during the last century over a thousand American fire insurance companies perished. If our State and municipal authorities would establish differential tax rates, giving a substantial reduction where a thoroughly fireproof construction is employed, the effect could hardly fail to be gratifying, especially if insurance rates were dropped in the same degree.

AN ARCHITECT'S SERVICES AND REMUNERATION

BY GLENN BROWN, ARCHITECT
SECRETARY THE AMERICAN INSTITUTE OF ARCHITECTS

CONCLUDED

IN England the office of works, one of the recognized ministries of the country, is in charge of all government buildings, except military barracks, local admiralty buildings and police stations. The great government buildings in England have been erected by architects who have no connection with the government. The architect for the new admiralty buildings were selected by an open competition. The architect for the Queen Victoria memorial was selected through an invited competition, the Royal Institute of British Architects being asked to nominate the competitors. The new war offices by means of known works from a number of architects nominated by the Royal Institute of British Architects.

The remuneration of an architect for his services by sufficient sums to reimburse him for the most careful study of the problem, the most explicit and elaborate preparation of drawings, and efficient supervision of the construction, will secure the client or government the best result in the completed building. Anything less should not be considered.

The proper sum for such services can only be ascertained by what experience has proved to be the cost of producing the work by architects in charge of large buildings and who have given the study, prepared the drawings and conducted business so as to produce good results in completed structures. The expenditure of millions in structures which must permanently beautify or mar the landscape are not proper fields for experimenting with untried methods or inexperienced men.

By an inquiry among the various architects of the country who have been doing such work, I find that the actual office expenses amounts to from 2½ to 3 per cent on the cost of the building; out of this percentage the architect receives nothing. As 5 per cent is the amount usually paid, the 2 or 2½ per cent which remains after paying expenses of the office covers the actual cost of supervision and the remuneration to the architect. If he secures 1 per cent out of this for his service he is fortunate.

The cost of production stated is only for large work, small monumental work costs approximately more.

In this connection, as a proof of what such service costs, and the remuneration usually paid in this country and abroad, the reports of the government officials and statements from foreign countries go to prove that instead of architects receiving less than the usual 5 per cent they should, to properly compensate them, get a greater percentage in most cases.

Taking the supervising architect's office, which in recent years has been conducted in a thoroughly efficient manner, we find that the office expenses of producing drawings and conducting the work, exclusive of the cost of sites and the cost of buildings erected under the Tarsney Act and exclusive of superintendence, we find that the average has been for three years 6.3 per cent for the office work, on the amount expended in building, while superintendence during the same period cost 2.4 per cent on the amount expended in building, making the total for the preparation of plans and supervision on an average for the past three years of 8.7 per cent on the amount expended by this office, excluding the buildings which have been erected under the Tarsney Act.

Captain John B. Sewell, under whose efficient management the government printing office has been built, in his report of November 3, 1903, states the architect's services, draftsmen and office expenses amounted to $146,199.89, making 6.6 per cent on the cost of the work. This is exclusive of cost of experts in heating, ventilation, plumbing, electrical installation and his own salary. When these items, which would approximate about $20,000 during the period of the building covered by the report, are added to the expenditures, it would bring the percentage of the cost of the building up to more than 7.5 per cent for drawings and superintendence. The report of the Superintendent of the Capitol for 1902 shows that his own salary not being included, the reconstruction or fireproofing the central portion of the Capitol cost $153,500, and that the pay rolls in the superintendent's office relating to this branch of the work, together with the fee for consulting engineer was $25,813, or a percentage on the cost of work, more than 16¾ per cent. The fee of the consulting engineer, $4,760.28, amounts to over 3 per cent on the total cost of the work and 7.7 per cent on the cost of structural steel and general contract, as shown in the report of the Superintendent of the Capitol Building and Grounds, June 30, 1902.

In this connection the fees paid by foreign governments to architects for large pieces of construction show that our architects receive less personal remuneration for similar work done in the United States at the same rate of compensation. The American architect, with higher salaries paid to draftsmen, higher rents, and no architectural pupils paying for the privilege of doing work, is receiving smaller remuneration than his professional brother across the water.

In England 5 per cent on the cost of the work is paid to the architect, while much of the time and labor is saved to him by the limited sets of drawings he is expected to furnish and the bills of quantities which are made by the surveyor, and for which the owner pays 2 per cent. A clerk of works and an inspector is provided by the owner or government. They are selected by and under the orders of the architect.

In France the same system is in vogue as to payments. The municipality of Paris has recently established a schedule of fees for the payment of architects on municipal work, paying 6 per cent on the first 200,000, 5½ per cent on the second 200,000 and 5 per cent on the third 200,000 francs, 4½ per cent on the fourth 200,000 and 4 per cent on all additional cost. Thus the fee on the largest building is between 4 and 5 per cent, and the government provides, subject to the order and on the endorsement of the architect, a superintendent and a clerk of works as well as the inspection given by the building council, while his office expenses and draftsmen's wages are from one-third to one-half what is paid by the American architect.

In Germany the rates paid by the government on the work when private architects are employed is in accordance with the schedule of the Society of Architects and

Engineers. These rates vary according to the character of the building and the cost of the structure, simple buildings, like sheds or factories, being done at a less rate than more ornate structures. A separate increased rate is charged for decoration in the class under which government buildings are placed. The rate for the most expensive building in their schedule is given at $2,000,000 and the rate for $250,000 worth of decoration and $250,000 worth of furniture makes the rate on the total sum a fraction over 5 per cent. The schedule provides for numerous extra charges for heating, lighting, ventilating, water, sewerage and electrical arrangements and salary for building foreman and inspector. Traveling expenses, acquisition of building site and per diem to the architect while traveling.

The Russian government pays the architect on the building being erected by the Minister of Marine at the new port of Liban on the Baltic 8 per cent on the cost of the building.

In Italy when an architect or engineer is not working on a salary, he receives a 2 per cent retainer, 4 per cent on the completion of his drawings, and 8 per cent for the total direction of the works.

The Swiss architects and engineers have a very carefully prepared schedule of charges. The buildings are divided into classes, factories, sheds, etc., being in the first class and for which the smallest percentage is paid. The commission is also graded according to the cost of the structure. In the class to which government buildings belong, 5 per cent on the total cost is the smallest percentage paid for the largest structure, while it runs up to 8 per cent for small structures of this class.

The clerk of works or superintendent is employed or paid by the owner, but he is under the direction of the architect, all traveling expenses and an additional per diem are charged while traveling in addition to the percentage. Some of the special regulations of this schedule are interesting.

By the various schedules it will be seen that the foreign architect protects his interests more carefully than we do usually in this country, against both the government or the owner and the contractor, demanding payment for extra services for many items which an architect does in this country without extra compensation.

In every instance the answer from foreign countries has been that the architect who designs the building supervises it until completion, although in many countries the government is represented by technical commissions and inspectors, and employ superintendents and clerks of works, they are all with the exception of the commissions, under the direction of the architect, and the architect is responsible both for design and construction of the building.

After a building of importance is completed, its maintenance, repair and additions thereto are not left to the tender mercies of men unfamiliar with design and construction, but the architect who designed the building is retained at a small yearly salary to maintain or add to the building until his death, when another architect, familiar with the structure, fills his place. In some countries a technical board of works, on which a majority of the members are architects, have charge of the maintenance of government buildings.

It seems necessary to add that from the foregoing data the architects in this country do more work for less compensation than do the profession in the other civilized countries of the world.

The cost of work in the engineering profession, which is to a certain extent similar to the work of an architect, may be considered in making a comparison with the cost of producing drawings in an architect's office. It must be remembered that the drawings made by engineers are not so numerous and are less elaborate than those made by architects. The data received from engineers shows that government engineers usually allow 10 per cent on the cost of work for the items of superintendence, field engineering and office expenses. A prominent railroad engineer states that office work and supervision in engineering has cost him from 5 to 7½ per cent on the total cost of the work. This is confirmed by another large railway system where the engineering work actually cost from 5 to 8 per cent, according to the character of the work. Another railway company, in making estimates, allows for engineering service according to the character of the work from 5 to 10 per cent on the cost of the work. The commissioner of public works of St. Paul says that expenses of engineering work cost 5.11 per cent on the amount expended, while for mechanical work or shop work they allow 15 per cent on the cost for drawings and supervision.

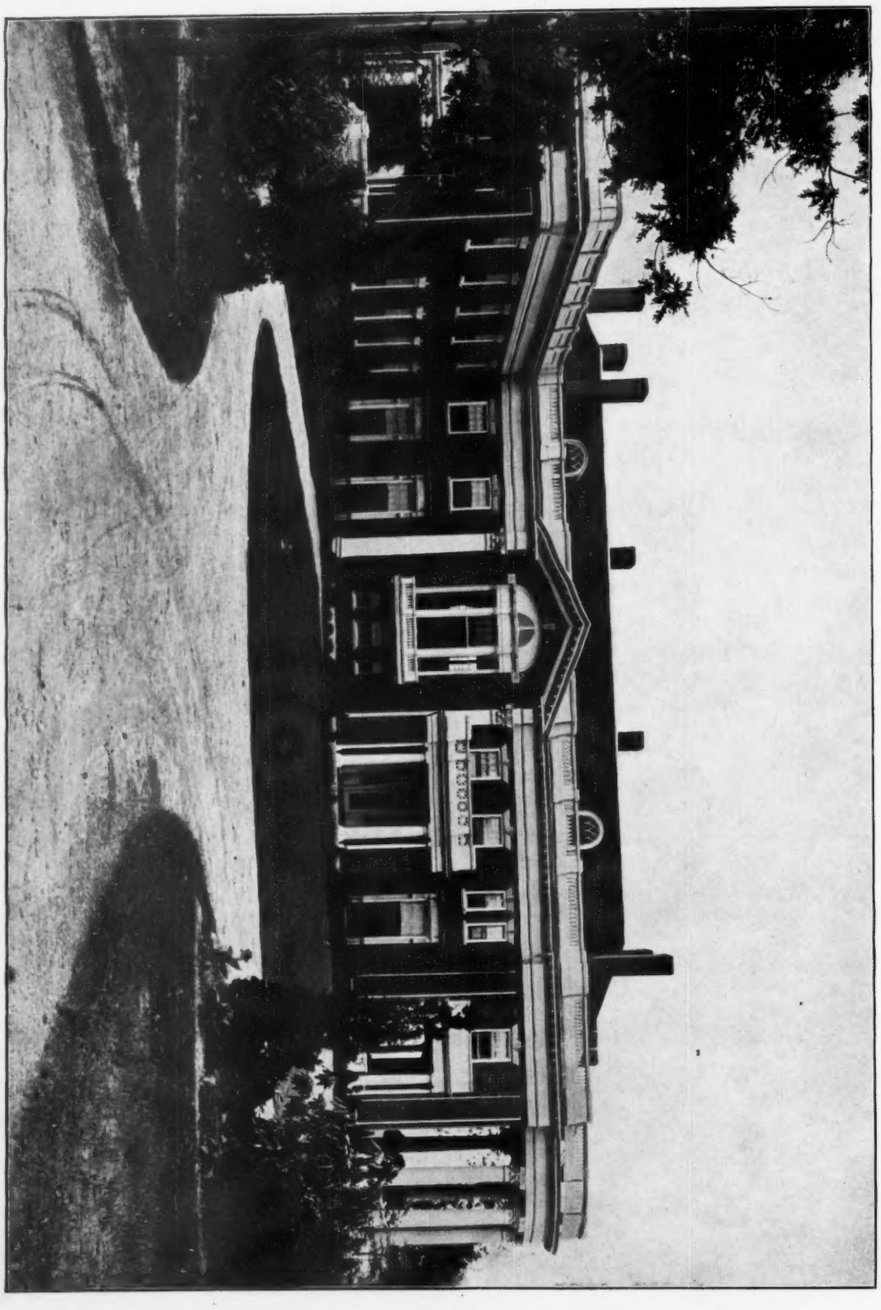
It is customary for contractors when they do work by the day to charge 10 per cent on the cost of material and workmanship. This appears to be a time-honored custom to which no one objects.

The value of services can be measured by the prices paid by capable business men; it has been the custom for years for business men and large corporations to pay architects in this country and Europe 5 per cent on the cost of buildings. This is an old custom, which has in the last few years become a burden upon architects, as building has been rapidly becoming more and more complicated with the introduction of mechanical plants for elevators, electric lights, telephone service, heating and ventilating plants, all of which must come under the control of the architect and be considered by him in relation to the building as a whole. The employment of experts paid by the client in these various branches only partially relieves the architect.

CREDIT TO ARCHITECTS,

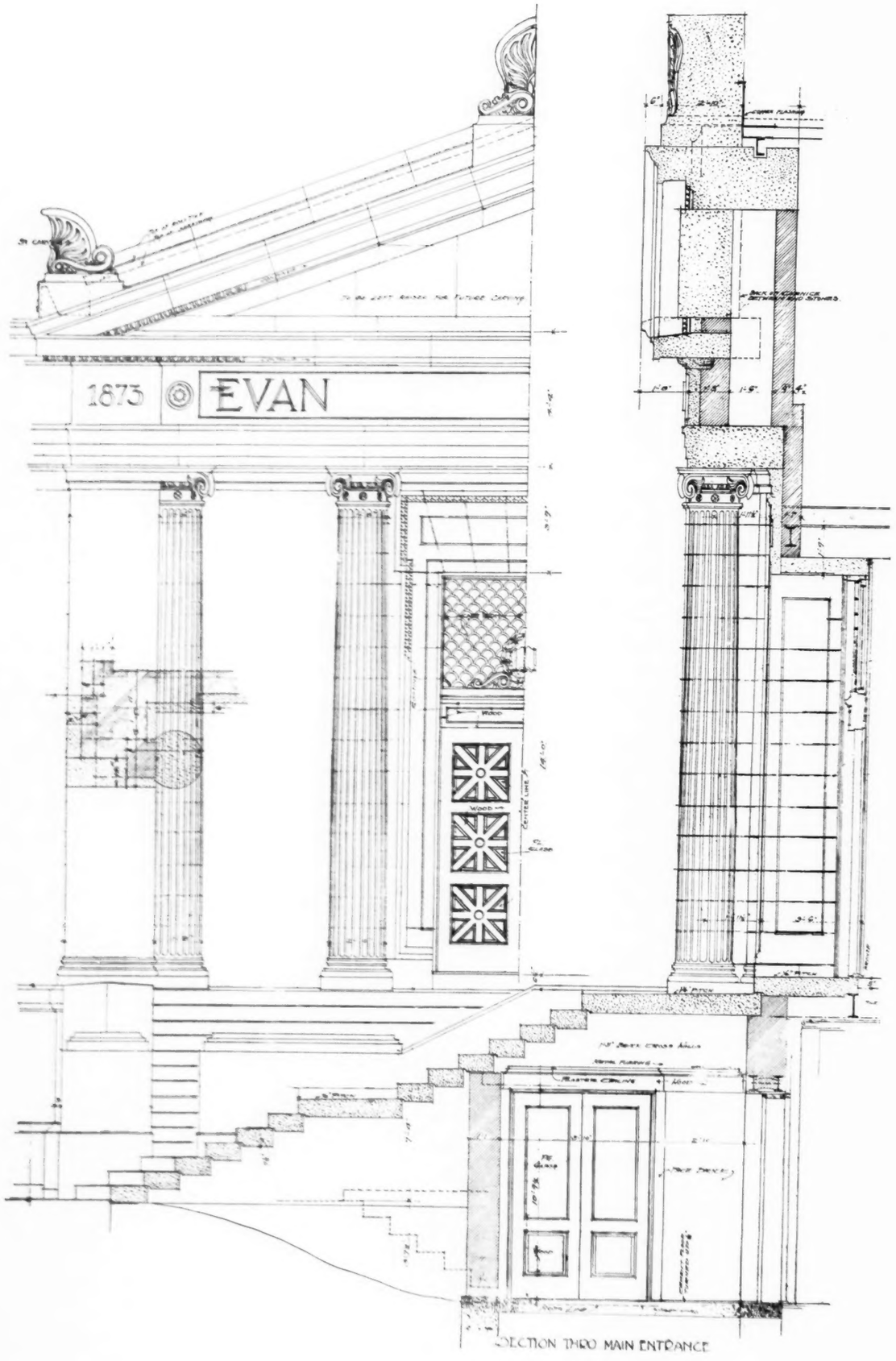
TO THE EDITOR, INLAND ARCHITECT.

I notice in your circular received the question raised of making public the architect's name in connection with his buildings. I have noticed particularly the attitude taken the last few years by Chicago newspapers in regard to omitting the architect's name from descriptions of his buildings in almost every instance. It seems to me very unfair often to the architect that long descriptions of his buildings are published and no mention made whatever of his name. As you say, the architect does not receive in any way the fair treatment given the sculptor, painter, or even the real estate man, and I think it is a subject that might well be discussed and acted upon by the architects. I believe the attitude of the newspapers as well as other publications should be changed on this subject and believe that it is the architects' task to bring this about. I think this subject could be discussed by architects with much profit. While I am not in favor, of course, of advertising from a professional standpoint, I do think that a proper mention of the architect's name in connection with the work which he does is only just and proper.



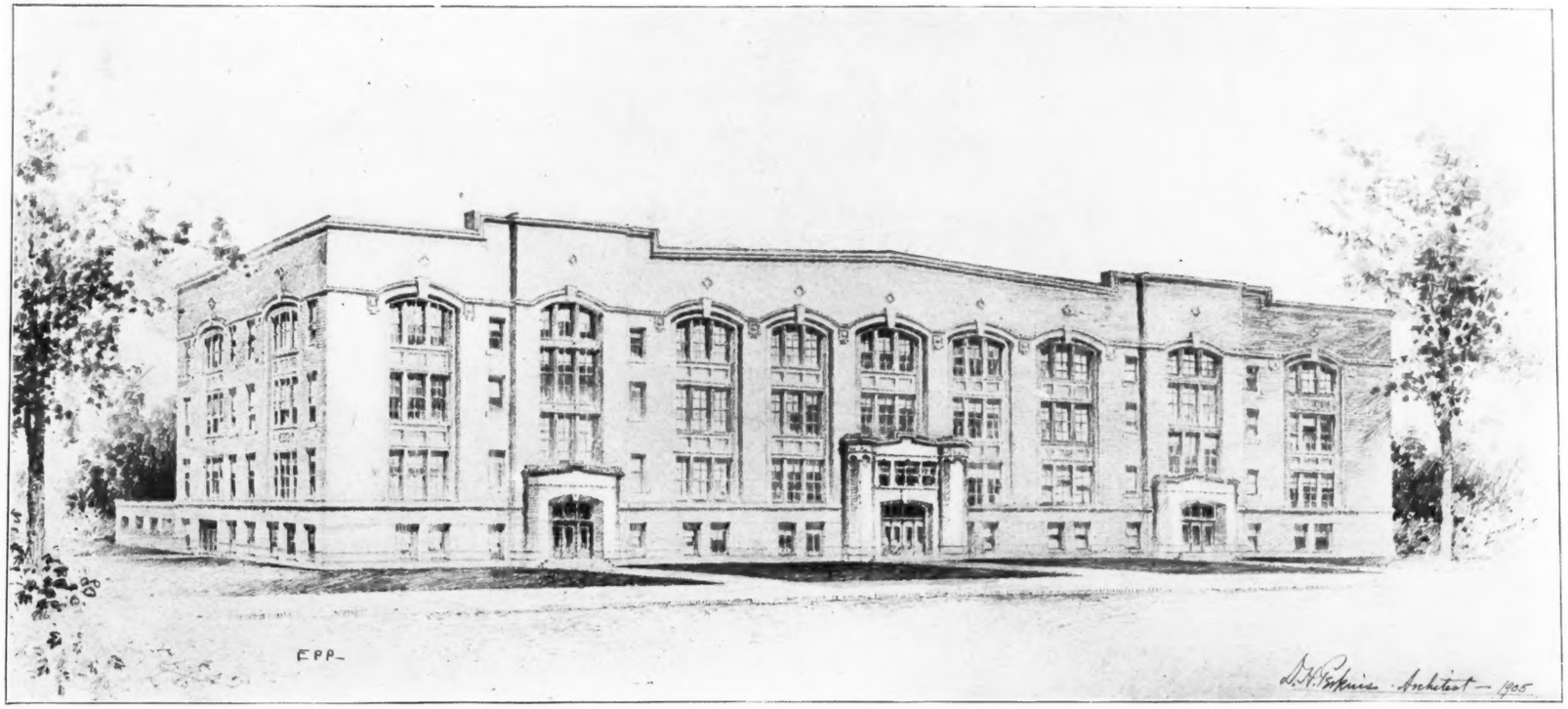
REAR VIEW, RESIDENCE OF N. W. HARRIS, LAKE GENEVA, WIS.

SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.



SECTION THRO MAIN ENTRANCE

EVANSTON, ILL., FREE
JAMES GAMBLE ROGERS AND CHARLES



THE STEPHEN R. HOYT SCHOOL, CHICAGO.
Dwight Heald Perkins, Architect for Board of Education.

SIDE VIEW.

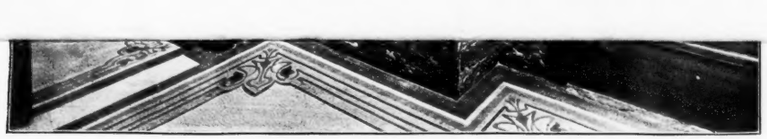
VIEW FROM NORTH.

CHRIST CHURCH
W. A. Otis, Ar

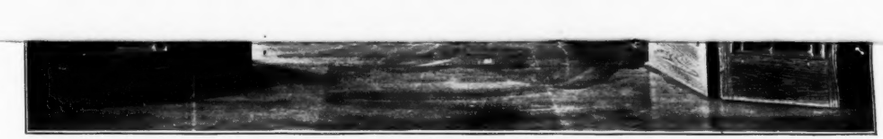
VIEW IN LIBRARY.

VIEW IN HALL.

RESIDENCE OF N. W. HARRIS, LAKE GENEVA, WIS.
SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

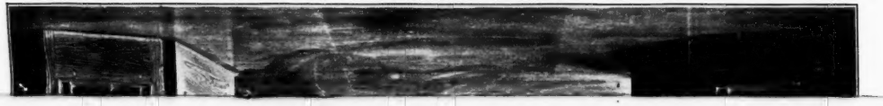


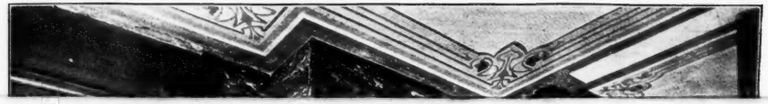
IN THE VESTIBULE

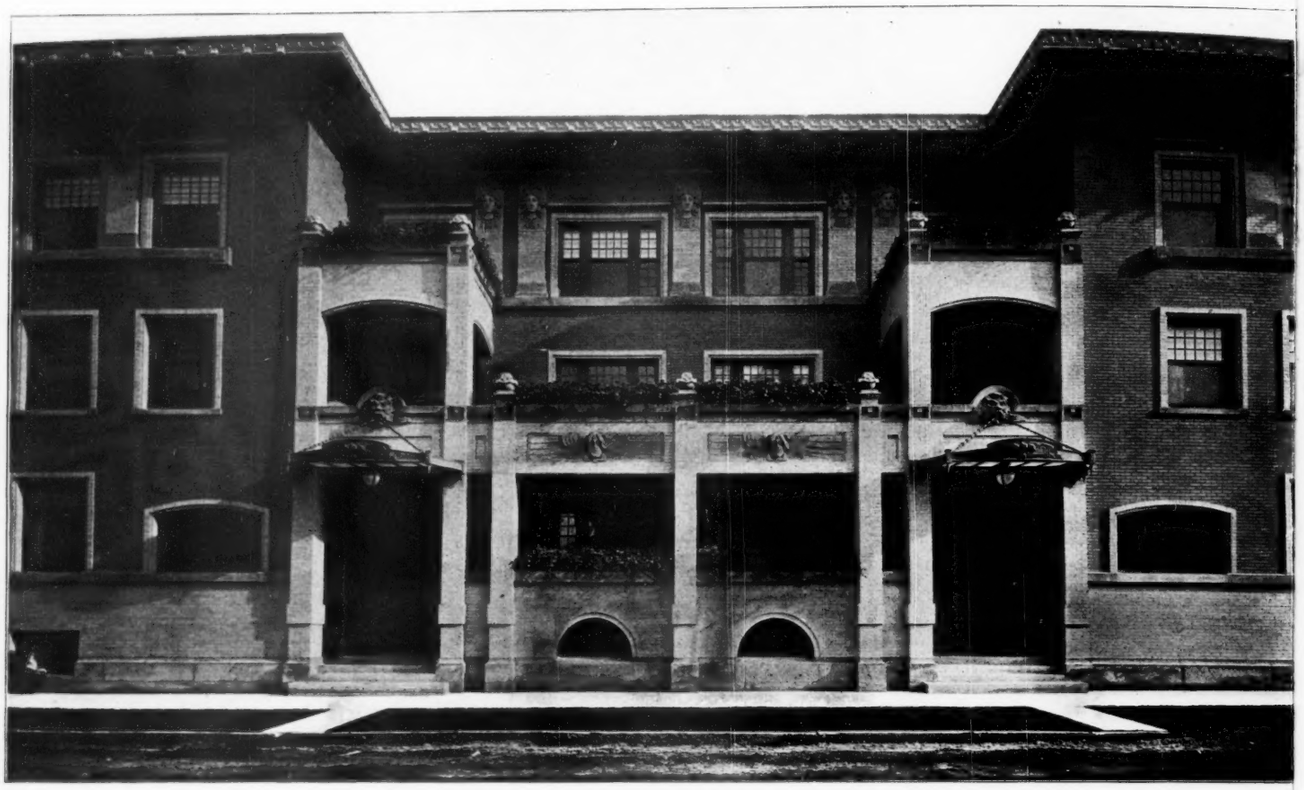


THE LIBRARY BOOK CASES.

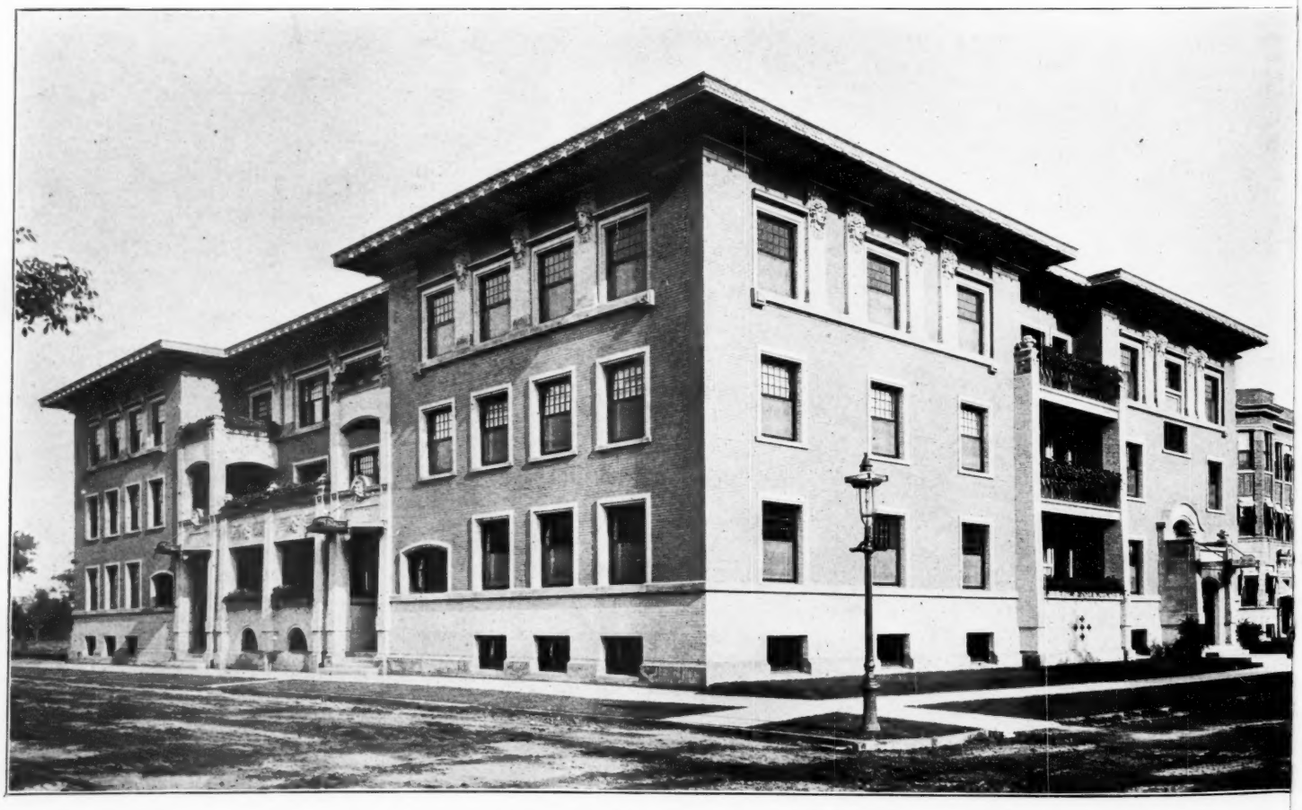
RESIDENCE OF W. E. PARTRIDGE, DETROIT, MICH.
W. E. N. HUNTER, ARCHITECT.





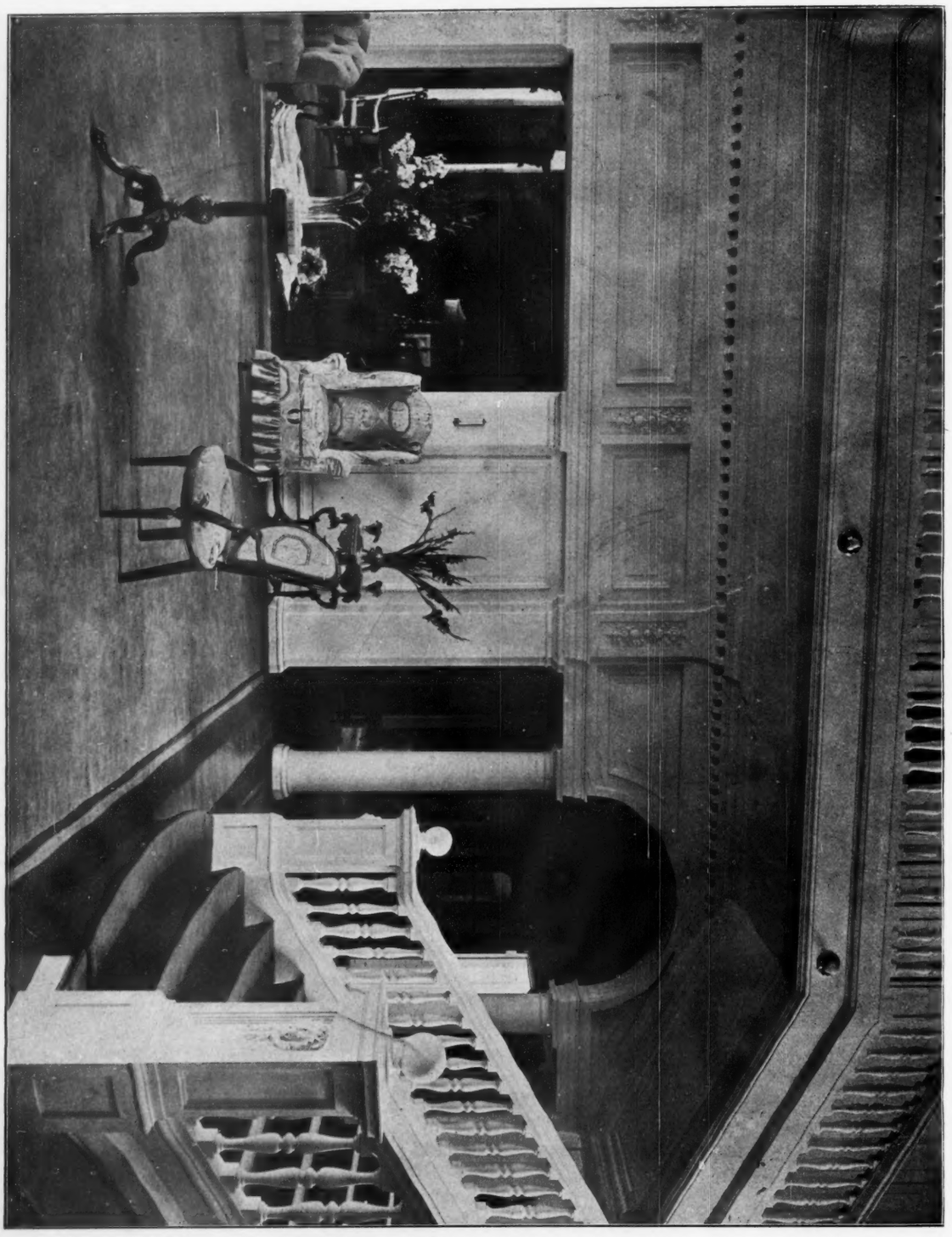


DETAIL VIEW, THE LOGGIA.



EXTERIOR VIEW, CORNER LAWRENCE AND KENMORE AVENUES.

THE ILFRACOMBE APARTMENT BUILDING FOR JOHN V. FOX, CHICAGO.
SAMUEL N. CROWEN, ARCHITECT.



VIEW IN HALL, RESIDENCE OF N. W. HARRIS, LAKE GENEVA, WIS.
SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

VIEW IN DINING ROOM, RESIDENCE OF N. W. HARRIS, LAKE GENEVA, WIS.

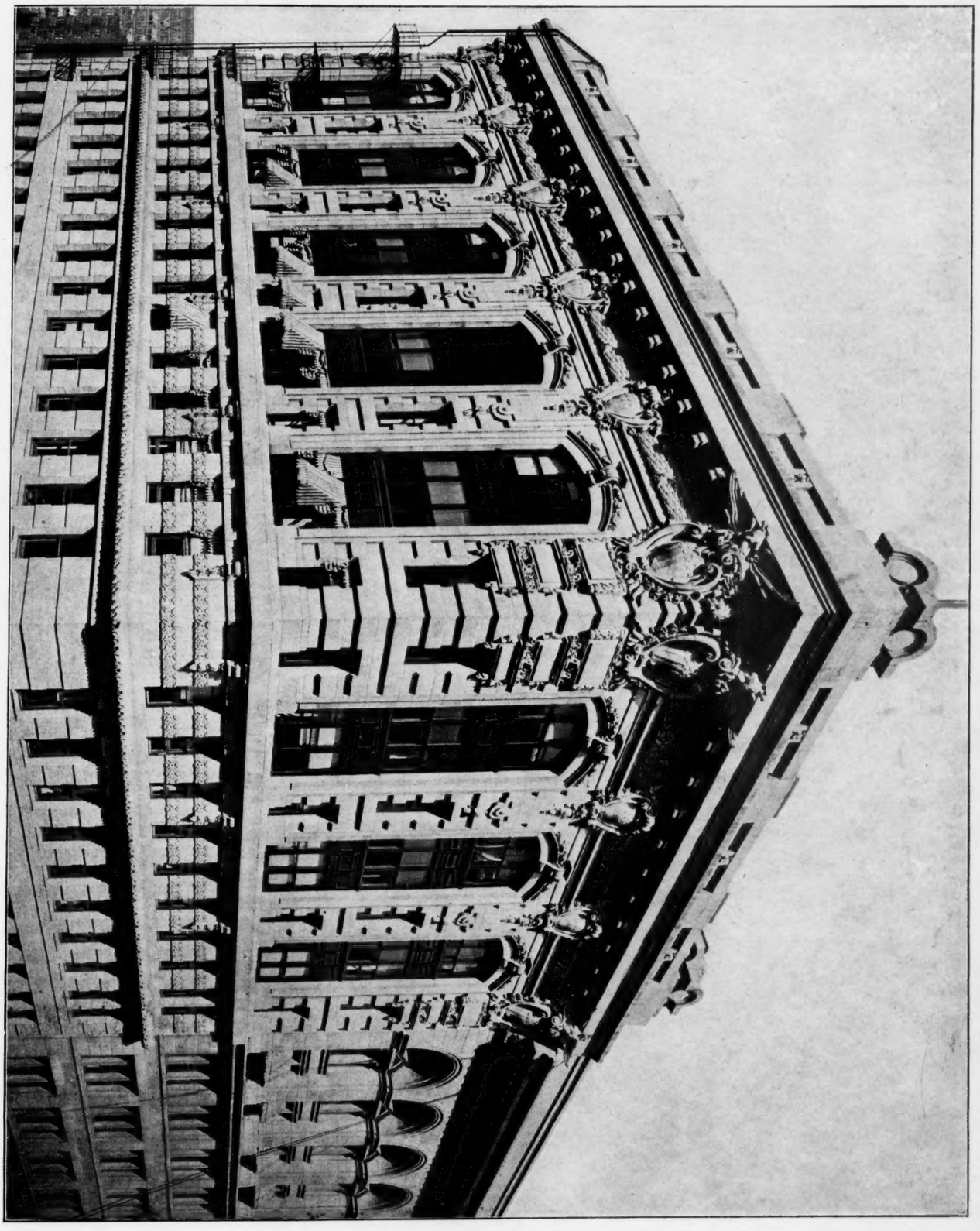
SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

ENTRANCE DETAIL, BORLAND BUILDING, CHICAGO.

Shepley, Rutan & Coolidge, Architects.

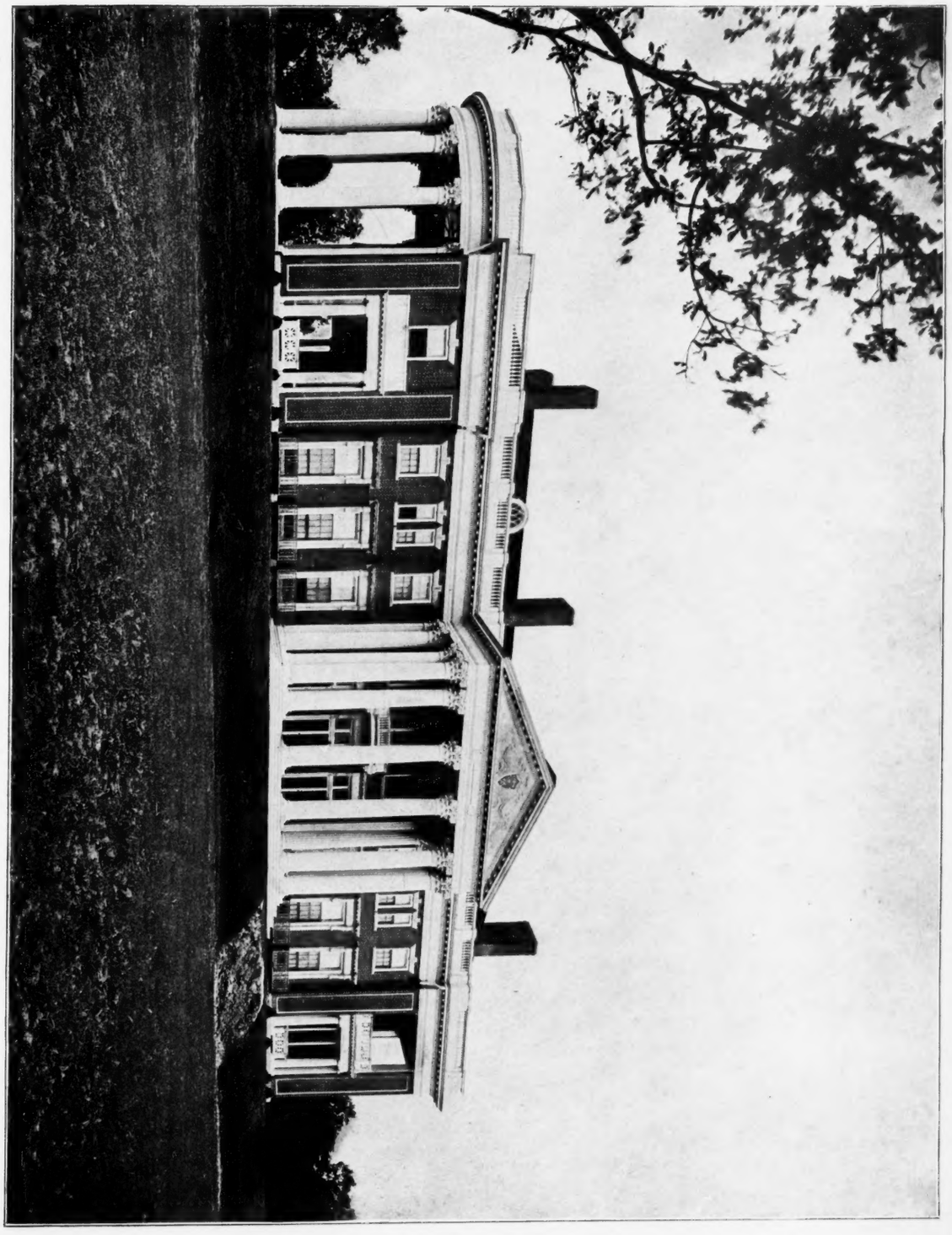
DETAIL OF UPPER STORIES, AMERICAN TRUST & SAVINGS BANK BUILDING, CHICAGO.

Jarvis Hunt, Architect.



DETAIL OF UPPER STORIES, AMERICAN TRUST & SAVINGS BANK BUILDING, CHICAGO.

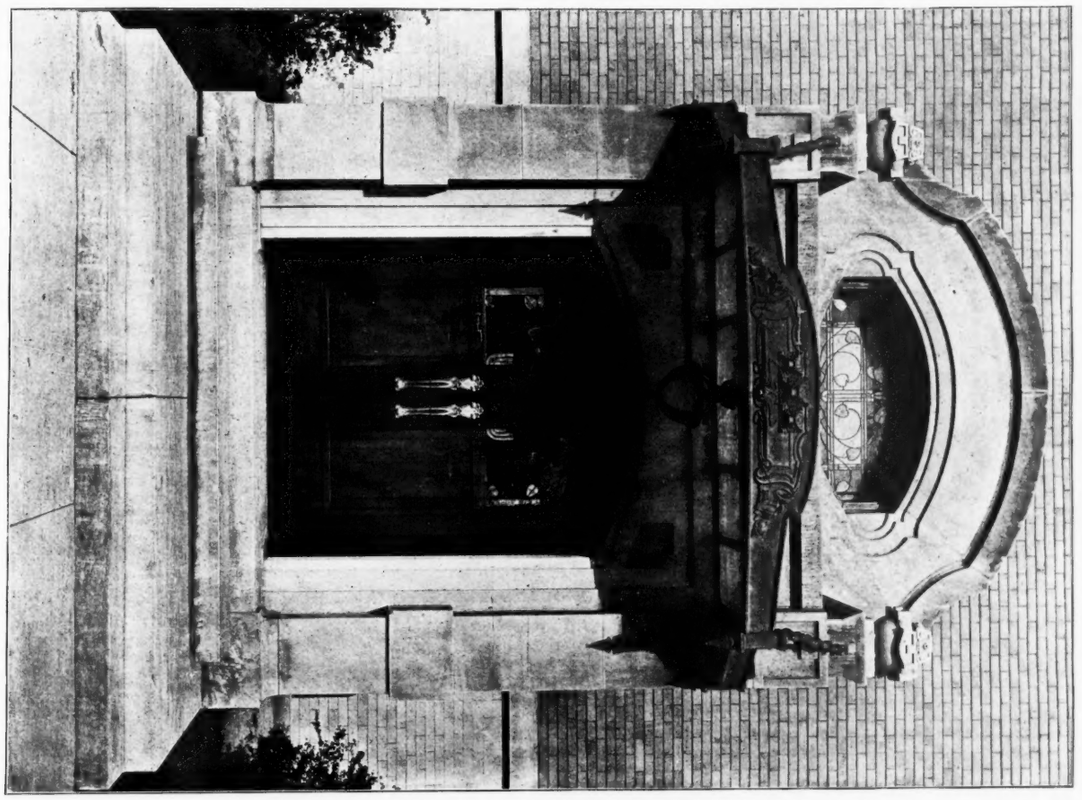
JARVIS HUNT, ARCHITECT.



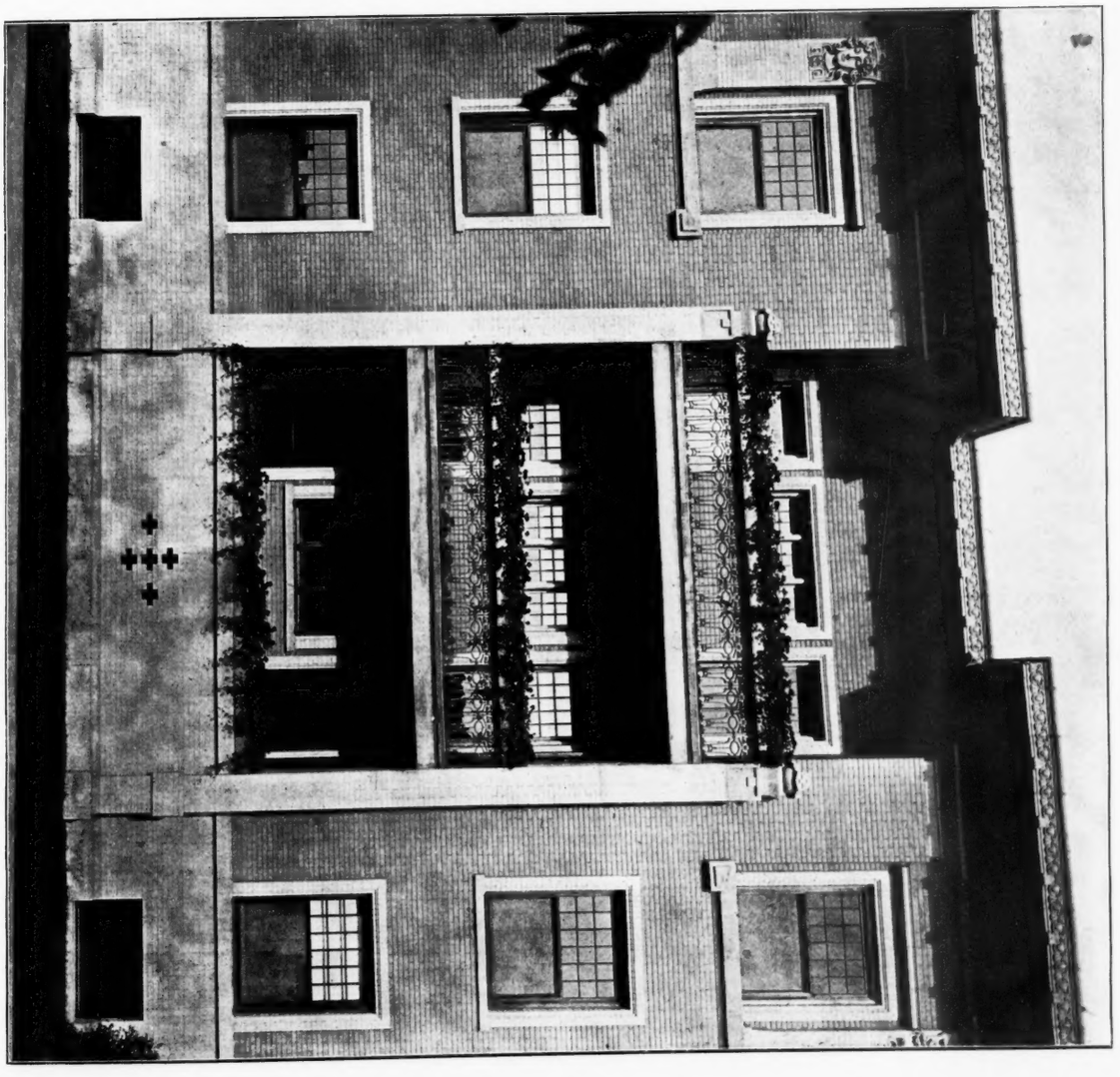
LAKE FRONT, RESIDENCE OF N. W. HARRIS, LAKE GENEVA, WIS.
SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

THE BORLAND BUILDING, CHICAGO.

Shepley, Rutan & Coolidge, Architects.

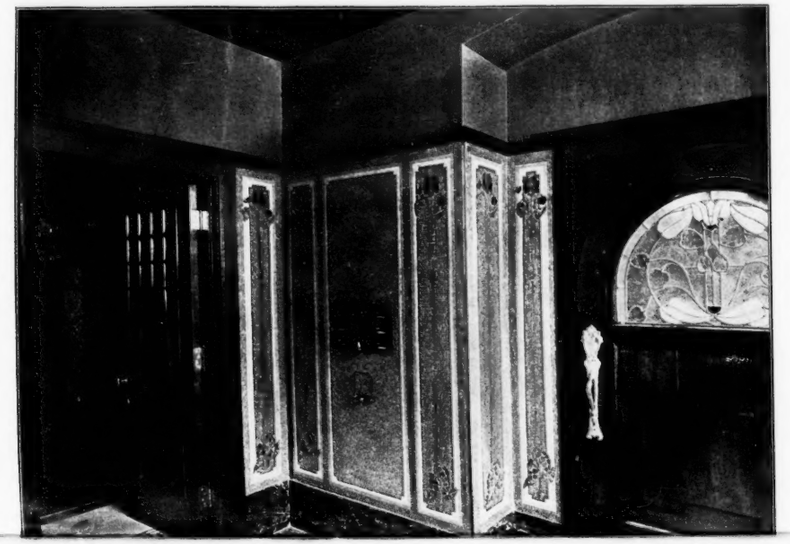


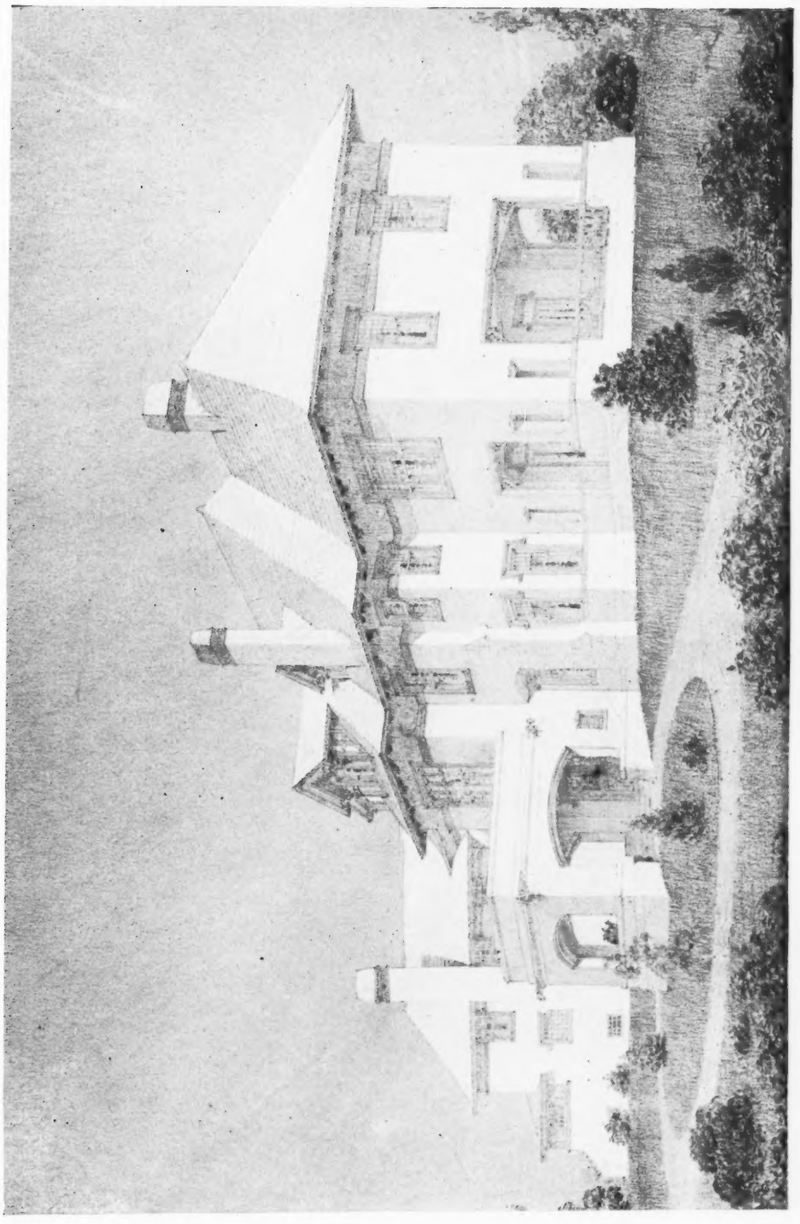
ENTRANCE DETAIL, KENMORE AVENUE FRONT.



BALCONIES FROM DINING ROOMS, KENMORE AVENUE FRONT.

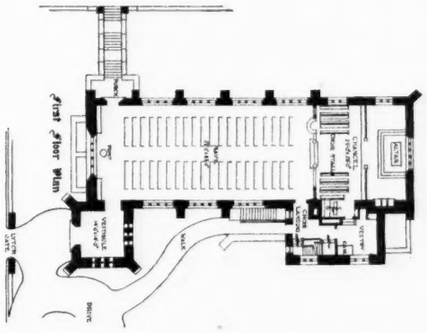
IN ONE OF THE SUITES.

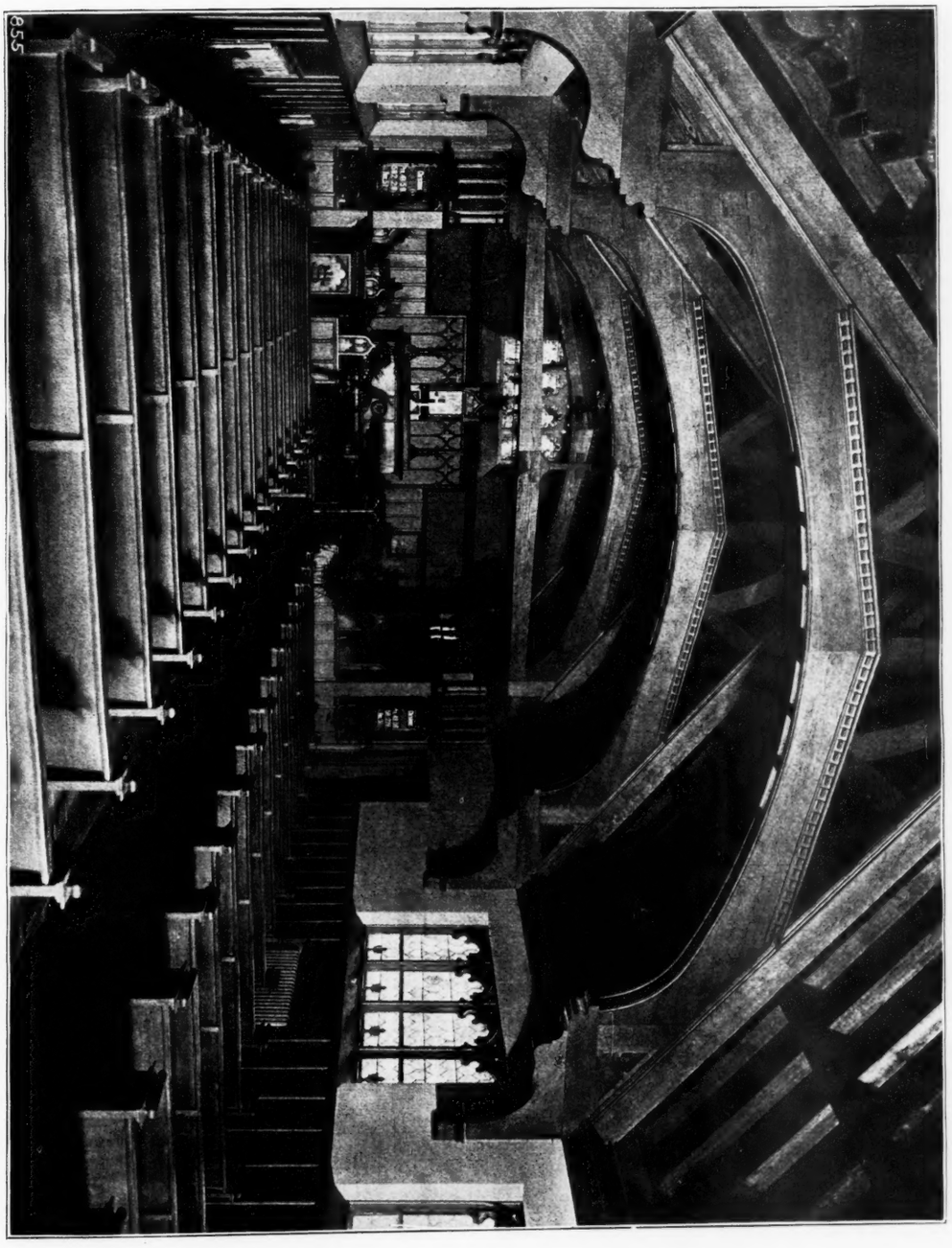




RESIDENCE, GLEN COVE, L. I.

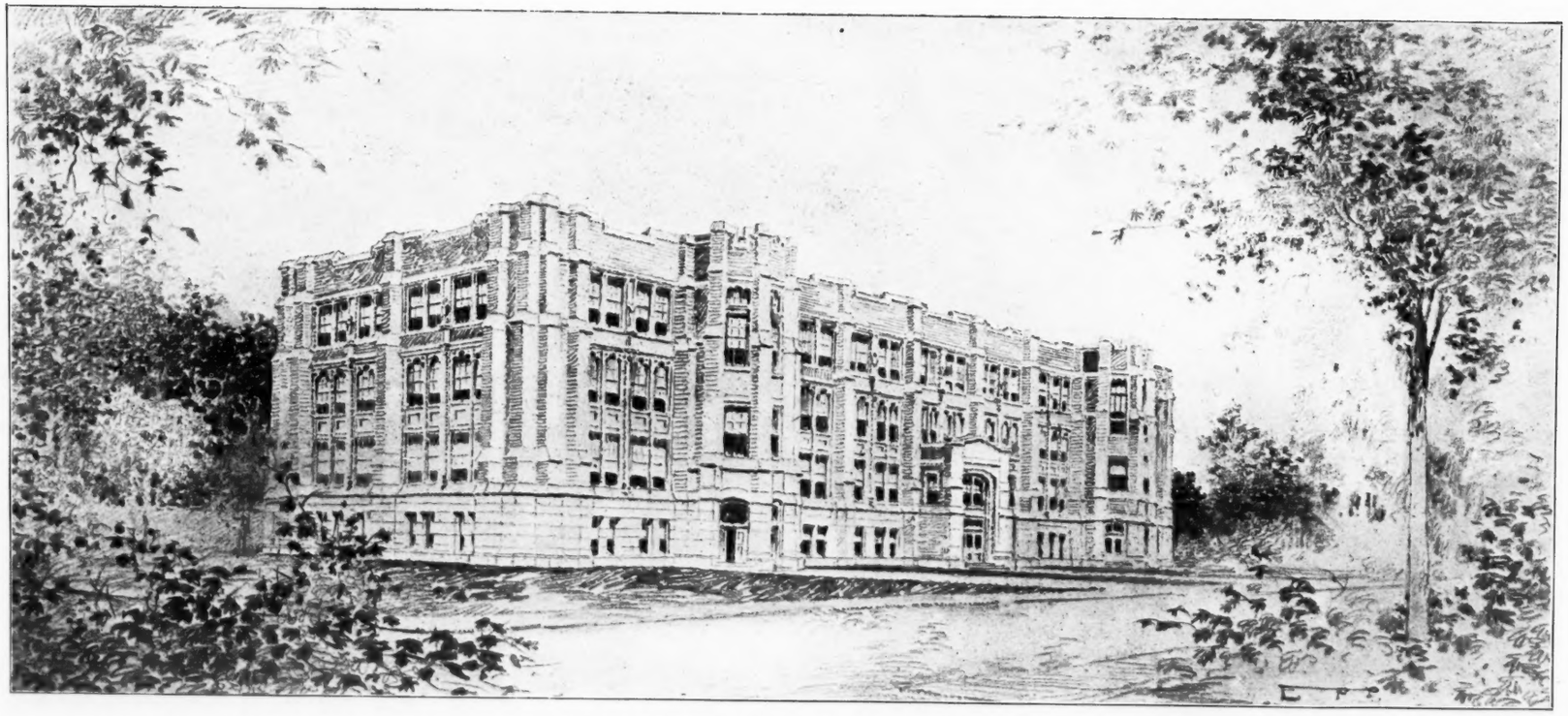
George C. Palmer, Henry Hornbostel and Louis Brown, Associated Architects.



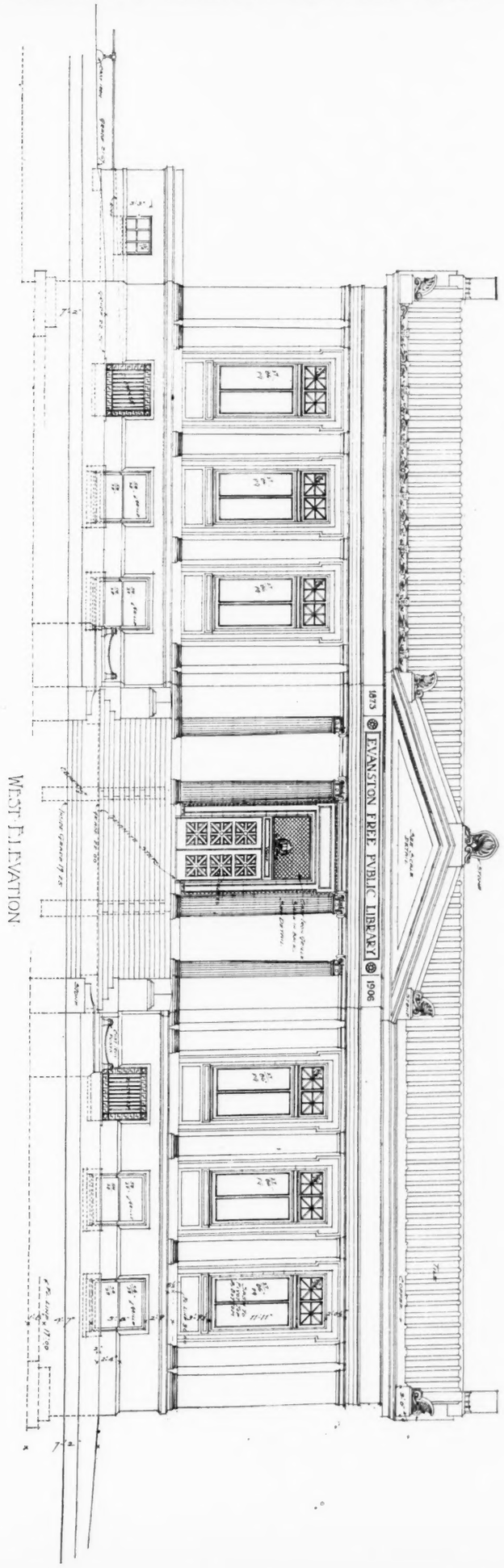


INTERIOR VIEW.

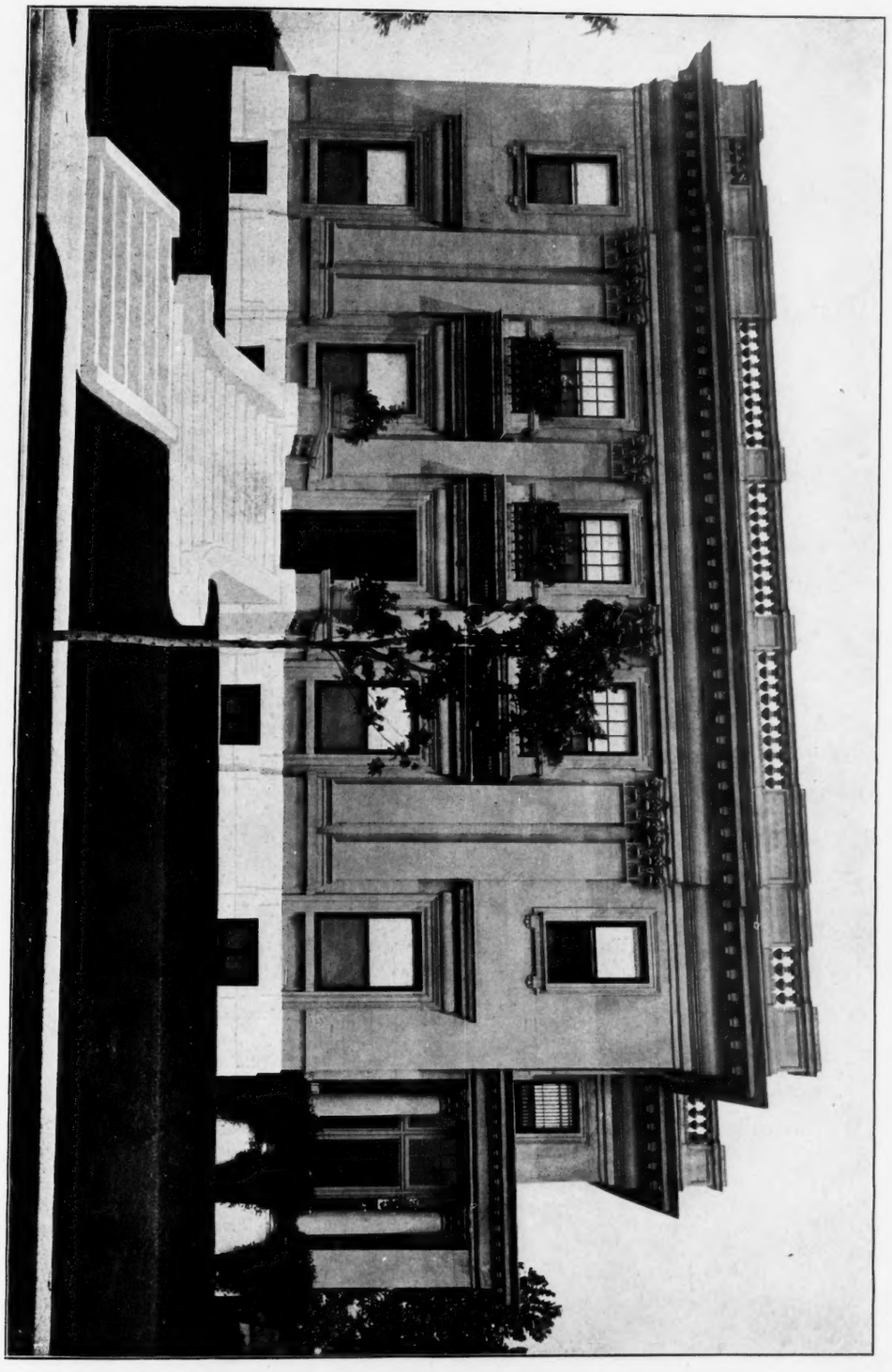
, WINNETKA, ILL.
CHITECT, CHICAGO.



THE BERNHARD MOOS SCHOOL, CHICAGO.
DWIGHT HEALD PERKINS, ARCHITECT FOR BOARD OF EDUCATION.



E PUBLIC LIBRARY.
A. PHILLIPS, ARCHITECTS, CHICAGO.



RESIDENCE, ST. LOUIS, MO.

BARNETT, HAYNES & BARNETT, ARCHITECTS.

PARKS AND GARDENS OF SOUTHERN CALIFORNIA

BY W. L. B. JENNEY, ARCHITECT

WEST LAKE PARK, LOS ANGELES, CONTINUED

AFTER lunch we entered a West Lake Park car and were landed on the edge of the Park. There is no fence around the Park, as is so common East and elsewhere, nor the beautiful laristrina hedge that we saw at Florence, the Park simply edging its lawn by the sidewalks. The Park is in a gentle depression, sloping from the street all around toward the center, which is occupied by a pretty lake, bordered by a cobble-stone coping, with numerous large bunches of tall water-grass planted in the water near the coping.

THE POOL IS FILLED WITH WATER GRASS

Our two friends were reminded at once of a beautiful little park in Milan near their hotel, about the same area. Much the same contour of surface and located in practically the same climate, but how much it fell short. How little advantage was taken here of the fine sub-tropical climate, which will support nearly everything desired. Mr.

WATER FALLING ON ONE SIDE AND CROSSING INTO THE POOL

Olmstead would have done far more in Long Island. "Jack," says the Doctor, "what a pity Olmstead could not have designed an entrance for this Park. How beautiful he would have made it. Now there is nothing but a gravel avenue without any bordering other than the edge of the grass or street sidewalk."

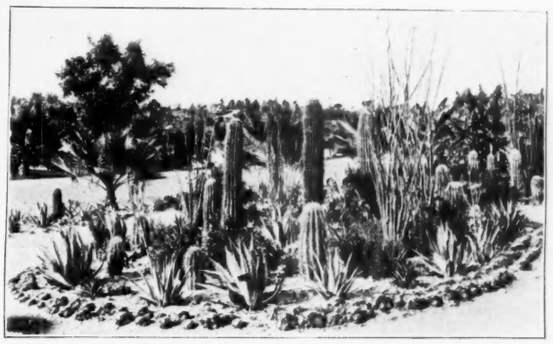
There is a fine view of the lake from the street as one steps off the car and enters the walks to the Park. There are some very good trees, bordering the park both on the street and within the park.

There is a walk along the lake parallel to the street, the lake has a curb of cobble stones and cement. It is often planted with bunches of water-grass and plants just within the curb and at favored spots. At one spot a natural little arroyo runs from the high street above down into a pool in the side of the lake. The pool is filled with water-grass of the papyrus type. Over a branch of the lake is a rustic foot bridge, with similar planting surrounding the whole vicinity.

From habitations on Sixth street at the top of the hill are seen the pool and water planting in the wet grounds below.

There is some very good cacti planting. A pleasing bed, and then in groups along the walks. Perhaps none very rare, but in considerable numbers, in variety and well grouped.

"Jack," says the Doctor, "you are a professional. What do you think of this Park?"



THERE IS SOME VERY GOOD CACTI PLANTING

"I like it well for the most part, particularly these little arroyos and water spots. Look at that bit of walk, so combined with the water falling into it on one side, crossing into the pool on the other. Is it not novel and original? The lower step is like a water fall, encouraging the growth of the vegetation as it passes under a little rustic bridge into the lake. Is not that picturesque and natural and a lovely bit? But let us walk up the bank and look at the lake. You remember how much we enjoyed the life on the lake in the little park at Milan. The numbers

THE WATER PASSES UNDER A RUSTIC BRIDGE

of beautiful little duck, nesting and brooding in the little basket-like nest, so prettily and so ingeniously built for them among the water plants on the edge of the lake, where they were sheltered and secure."

[To be continued.]

MODERN BUILDING ORGANIZATIONS

BY GEORGE ETHELBERT WALSH

THE building industry, in spite of labor troubles and higher cost of nearly all kinds of structural materials, is having its greatest boom of the century in this country—an activity that is widespread and not confined to any locality or section. Building operations in our large cities indicate the growing tendency to centralization, and in 165 cities there were actually expended in 1905 $711,123,741 in new buildings, which shows a gain of about 40 per cent over 1904 or any other previous year. From the plans drawn and projected it is evident that the present year will eclipse 1905 in the extent and value of its building enterprises, and the activity in this work is frequently quoted as one of the surest barometers of trade in general.

The vast expenditures in buildings of all types in our cities has stimulated constructional organizations to the unification of their work so that the problem of erecting tall office buildings and mammoth piles of granite and masonry has been greatly simplified. The building of a great commercial plant or million dollar office building is a matter today of organization in which architects and engineers co-operate under one directing head. Civil, electrical and mechanical engineers combine their services with the architects so that an expert for each department insures perfect harmony and success of the work.

The modern architects who undertake to put up large commercial plants and office buildings either have their consulting mechanical, sanitary and structural engineers close at hand, or employ an engineers' staff in their own office. This latter method is only employed by the larger class of architects whose work is so extensive that they can keep such a staff of experts busy most of the time. The cost of an architect's establishment of this class will often amount to two and three hundred thousand dollars a year, and they construct buildings amounting in the aggregate from five to twenty millions a year. In such architects' offices the plans of mammoth plants are designed, and all scale and detail drawings made for contractors by experts.

Owing to the great cost of modern fireproof buildings in our cities speed of construction is a vital factor. Delays are fatal to the earning power of the land and building. Owners who are shrewd investors demand first of all definite contracts as to time required for building a certain structure. Other things equal the architects or contractors who can guarantee the completion of a building within a certain limited time are pretty sure to get the work. Owing to the fact that all architects do not have their own staff of expert engineers, large contracting companies have in recent years been organized for the purpose of taking the drawings and details of the architects and putting up a structure in the shortest possible time under heavy bond guarantee. These contracting or building companies employ competent structural, mechanical and sanitary engineers to work in harmony with the architects. Thus when an architect has his plans drawn a well-organized building company is ready to bid for the whole work. There is no sub-letting of the different parts of the work by the architect. All of this is attended to by the builder who guarantees to carry out the details of the specifications in every particular. This relieves the designing architect of a good deal of the worry and bother that naturally pertains to the sub-letting of contracts and their constant supervision. The building company with its own experts on the field all the time can expedite matters so that the time required for construction is greatly lessened. By subdividing the engineering work the contractor can avoid any loss of time which results where there is lack of harmony and co-operation directed by one supervising head.

The building companies with closely organized forces are not in any sense manufacturers, and they make no pretence at executing joinery, stone work, marble work and steel construction in plants of their own. They are strictly structural companies, organized to execute the plans and designs of others. They are in close touch with manufacturing plants of all kinds and enjoy a sort of special privilege clause in their contracts. Steel, terra cotta, partitions and mechanical manufacturing plants favor the large contractors in executing orders promptly. In the construction of large fireproof buildings in our cities, the contractors practically have the materials made in different shops, and they merely superintend the assembling of the various parts. The structural steel work is all carefully drawn and specified in detail so that when it is delivered story after story goes up like magic. The steel workers merely erect and rivet the beams, girders and columns together. The steel frame goes up as fast as the material arrives, and the other workmen follow in order, but their work is not limited by the conditions of the other experts. Owing to the standardization of the steel work, and the employment of designs which simplify construction, the steel men can finish their work and leave the site when the stone masons and terra-cotta men have probably finished only two or three stories.

The fireproofing of the steel frame likewise follows closely upon the erection of the steel part. Fireproof hollow tiles are delivered direct from the factory and masons fit them in position so rapidly that often two stories are finished within as many days. The popularity of terra-cotta for structural and ornamental work on the large office buildings is partly due to the comparatively light weight, convenience of size, and rapid handling. As time counts greatly in the construction of such buildings a material which is made at the manufacturing plant ready for immediate installation when shipped to the building without waiting for setting and drying of mortar and cement must always command popular attention. Terra-cotta for fireproofing interior steel work, for exterior fireproofing of walls, and for ornamental work has materially helped rapid construction. Terra-cotta for interior or exterior is put up in many huge buildings at the rate of a floor a day, and when finished the structure is as durable as if a week had been required for each floor.

The opinion no longer prevails, except among those not acquainted with modern building conditions in our cities, that rapidity of construction necessarily means poor work. Building organizations have been steadily devoting themselves for years to the reduction of time required to build a sky-scraper, and in achieving this they have worked out methods of construction that has eliminated the time factor without minimizing the quality of the result. It has been chiefly the perfection of details of building and the selection of the right material, and then an orderly business method of supplying the materials and labor in

sufficient quantity to prevent delays and interruptions. Instead of a few men working in one section of the building, half a dozen different sets are employed in various departments at once. The orderly routine of the work is a question skilfully worked out in the contracting office before the foundation is started.

The modern construction company of high standing is not limited to any particular place or city, and the tendency is growing to include the whole country and world in its field of operation. Bids are made for constructing buildings in every important city of the country, and when awards are made and contracts signed the engineering force is divided into groups to take charge of the different buildings. Frequently one company will have a score of buildings under way in as many different cities. In such cases it is impossible for the home office staff to take full charge of the work over such a scattered territory. It is here that consulting engineers are called into play. Arrangements are made with experts in the different cities to take charge of the buildings, but all under the supervision of the home office engineers. The building laws of the various cities are important matters to consider both in figuring on new contracts and in executing them. These building laws differ so materially that the same class of structures are rarely put up the same in five different cities. The effort now being made to standardize the building laws of the leading cities is backed up by the large building corporations, for similar laws governing building operations would greatly simplify their work.

The laxity of the building laws of some cities permit architects and builders to utilize inferior materials and work, and as a result they can save in construction on a type of building in one city over that of another. Ignorance of the details of building laws of different cities would place the large national contractors at a disadvantage, and the need of local experts familiar with conditions of materials and labor is thus paramount. Uniformity of building laws would work toward the standardization of building methods so that a contractor a thousand miles away could bid on a great structure and be assured in advance of a fair profit at a minimum of expense in labor and material. The greater part of the structure would be made in large plants and shipped direct to the scene for rapid assembling.

This is what our building methods are rapidly coming to, and the work will more and more drift into the large, closely-organized companies of experts, whose equipments are such as to enable them to construct a plant at a minimum of cost and time. The saving in the end to the owners would represent in the aggregate millions of dollars. It is a fact well known to contractors that, while labor and price of materials have enormously increased in the past ten years, the actual cost of building a modern, high-class fireproof building is relatively lower than at any previous time. In making such comparisons the improved quality of the structures must be considered. Building laws have grown stricter, and methods prevailing a dozen years ago would not be tolerated today. The fireproof building of a decade ago would hardly pass as a semi-fireproof structure today. The increasing demand for better fireproof buildings naturally increases the cost of structure.

But the improved nature of these buildings means a saving in the long run in other ways. In the first place the first-class fireproof structure of today is far more durable than those put up ten years ago. They are practically indestructible either from time or fire. The cost of repairs is very much lower, and in the course of ten years this would represent a saving of twenty per cent over that which was allowed in years gone by. The greater security against fire either from within or without has already resulted in the saving of large insurance premiums. The amount of insurance taken out on the newer fireproof buildings averages from one-third to one-half that considered safe five and ten years ago. Some of the recent buildings have reached a point of development where the fire risk is practically eliminated, and their owners are carrying the entire insurance risks themselves. If we consider this saving of thousands of dollars every year in insurance risks it will be found that the heavier investment in fireproofed steel structures is in reality an economy that pays enormously in the end.

The equipment of the modern building adds greatly to its renting capacity. A good many of these huge structures have upward of 50,000 horse power generated in the sub-basement for operating elevators, pumps for water and for ventilating fans, and for heating and lighting the different floors. The question of solving the power plant problem of the individual office buildings, hotels, apartments and manufacturing plants has been a delicate and important one. To secure the best results the buildings must have a certain large renting capacity. Anything above this point meant a distinct economy of operation and installation. Engineers and experts have given as much time to the solution of this problem as to any other connected with building operations. Economy of space in the sub-basement for the power plant has been as important as that of distribution of the wires and pipes, and the cost of fuel. In too many cases in the past the limitations of the power space has greatly injured the renting value of the structure. Comfort of the tenants is a prime requisite of a modern building, and when this is sacrificed by the architect through inadequate heating, lighting and ventilation, the damage done to the building at the very outset is enormous.

Business organization and improved manufacturing methods have made possible conditions of buildings which do not prevail in any other country. And the American type promises to be the prevailing one in most of the large cities of the world.

CREDIT TO ARCHITECTS.

TO THE EDITOR, INLAND ARCHITECT.

PHILADELPHIA.

I think there should be a public record on the walls of every building, giving the names of the persons mainly responsible for the construction. For instance, a brass tablet stating who was the donor of the land on which the building is erected, who paid the cost of the building, who was the architect, and who were the contractors would be an interesting record for all time. If the building is good and satisfactory, undoubtedly those who had the responsibility of construction should be permanently remembered, and if the building is unsatisfactory, it seems equally right that those who built it should have the fact of failure as permanently preserved as the record of good and successful work.

THE PLANNING OF HOSPITALS.

BY T. M. CLARK, ARCHITECT.

BUILDINGS FOR TUBERCULOUS PATIENTS

PART XII.

WHERE the building has two or more stories, or where the roof is used as a sun-room, the corridor can be no higher than the patients' rooms, and must depend for light and air upon outside windows toward the north, and at the ends, and on windows opening into the patients' rooms on the south. These, although they will admit air for cross-ventilation, will not usually receive much sun, and the corridor must therefore depend mainly for its healthfulness upon diffused light, aided by ample aeration. As we have seen, diffused light, with free access of air, is fatal to the tubercle bacillus, although less rapidly so than direct sunlight; and if the corridor is well lighted and aired from both sides, and kept scrupulously clean, it need not be a source of danger. It should, however, be lighted and aired throughout.

In many sanatoria projections of various sorts, either forming mere bays or containing lavatories, nurses' rooms, private dining-rooms and so on, are scattered along the north side of the corridor. Each of these projections interrupts the light and air, shades the windows in summer for a considerable distance on each side of it, and, on a windy day, causes eddies which collect dust and bring it in through the open windows; so that every unnecessary projection of the kind should be avoided. Where bath-rooms, linen-closets, fire-escape stairs or similar conveniences are required on the north side of the wings of an establishment for consumptives, they should be collected in a single projection, at the very extremity of the wing. As the corridor can here have east or west as well as north windows, projections cut off less light and air in this position than anywhere else, and they are less likely in this place to cause eddying currents, while they give a little shelter from violent northeast or northwest winds.

The usual practice in sanatoria for tuberculous patients has been to have one window in the corridor for every patient's room, placing it opposite the door of the room, so as to give a current of air directly across when the door is opened. This is, however, an inadequate provision of windows, according to more recent ideas, and a better arrangement is to put two windows, besides the door, in the wall between each patient's room and the corridor, and to have in the north wall of the corridor two windows opposite each patient's room. There would be no difficulty about putting three north windows in the corridor for each patient's room, corresponding to the two windows and the door of the room; but this brings the corridor windows so close together that they can not well be fitted with outside blinds, and in the long run more air will be secured for the patients by having two north windows in the corridor corresponding to each room, as these will be far enough apart to be fitted with outside blinds; and by closing the blinds on stormy nights rain or snow will be kept out, at the same time that air passes freely, while without the blinds the windows would have to be nearly or quite shut on stormy or doubtful nights, keeping out the air as well as the rain or snow.

It may be observed, in speaking of the provision of air in such buildings, that the more ample is the supply of air the less drafts are felt. Thus, a patient in a room with three openings on the corridor will suffer less from drafts than one in a room with no other opening than the door; and the more numerous and evenly distributed the corridor windows are the less annoying will be the currents of air from them. At the same time it is, medically speaking, impossible, in any room, to get too much, or even enough, fresh air for a tuberculous patient.

We often hear of the healing properties of ozone. What these healing properties are has never been exactly stated; but unless artificially generated by electric sparks, or by the slow combustion of phosphorus, or in some similar way, ozone is never found in the air of any inclosed room. A certain approximation to the outdoor air is probably all that can be hoped for in sanatorium rooms, but the closer this approximation can be made the more rapidly and certainly consumptives can be cured in them.

In an establishment for tuberculous patients of all curable classes it is not enough to provide bedrooms, and corridors for reaching them; the patients must have also bath and toilet rooms conveniently situated; food must be given them regularly, and they must have a place in which to eat it, and should also have space for resting quietly, as well as for exercising, in the open air. Moreover, as experience has shown that they derive great benefit from complete exposure to the sun, it is very desirable to arrange for them sun-baths, which can be easily reached, even by the most feeble, and afford an opportunity for all the patients to enjoy thorough sunning, without being overlooked.

The practice, common in European sanatoria, of closing the windows of the patients' rooms in the morning, and heating them for half an hour or so, while the inmates are dressing, and again while they are undressing in the evening, requires in this country, very powerful means of heating, and the water for the patients' ablutions must, in cold weather, be brought to them, as it would freeze if exposed to currents of air from open windows during the night. The simplest and most satisfactory arrangement in establishments for tuberculous patients is, therefore, to have a sufficient provision of toilet and dressing-rooms, kept always well warmed, in which the patients can wash and dress or undress themselves at any time in comfort, and in which there will be no danger of injury to the plumbing by freezing.

The bathing of tuberculous subjects is, usually, done in special bathrooms, under medical supervision, and forms an important part of the treatment; but shower or other baths may be provided in connection with the dressing-rooms, for those patients who are permitted to use them at their own discretion. Otherwise a porcelain or enameled iron lavatory for each patient, marked with his number, for his exclusive use, and supplied with hot and cold water, together with a sufficient number of water closets, will give all the equipment required unless, as is often the case, lockers for patients' clothes are also placed in the dressing-rooms.

[To be continued.]

MUNICIPAL IMPROVEMENTS.

BY ALBERT KELSEY, ARCHITECT.

CHAIRMAN OF COMMITTEE OF EXPERTS OF THE ART FEDERATION OF PHILADELPHIA.

PART XIII

WITH a square deal, such an invasion of the people's rights as has been described in this article will be impossible. Then railways will be permitted to enjoy a right of way only, instead of an ever menacing deed in fee simple for the ground traversed; long leases and privately owned docks will be a thing of the past, and then, strange as it may seem to the enterprising promoters of the railroad, we shall have frequent opportunities for the gradual development of an unlimited and symmetrical scheme, a scheme in which roadways and railways will spread and grow to one another's advantage, tending as they expand to ease and simplify the circulation of the city, rather than to congest and otherwise embarrass it.

FIG. 4

And then we may hope for some adornment. In the immediate center of every city's water front there will be an official landing place, marked by an inviting architectural composition of an official and local character, as shown in the accompanying view from Sneek in Holland. Or, again, the pride and glory of a city's commerce might be proclaimed by a great central feature in the harbor, like the neglected monument of Liberty Enlightening the World in New York; but instead of an isolated and remote unit, why not combine such a light with the harbor's thoroughfare where it crosses the water, as in Fig. 4, or again, make it a focal point like the Hotel Frontenac at the end of Dufferin Terrace, at Quebec, which not only dominates the city and harbor, but is also an intimate object of interest from a noble promenade.

Port facilities for the loading of cargoes and the transfer of freight prevent the planting of trees at the water edge, where powerful cranes must have full swing, though they may be introduced elsewhere to relieve the naked ugliness of any quay.

SNEEK

[To be continued.]

SANITARY ENGINEERING

BY J. PICKERING PUTNAM, ARCHITECT

PART XIV

IN the sewer air they found among the micrococci a very similar list, namely:

(1) Sarcini lutea.
(2) Sarcina aurantiaca.
(3) Micrococcus candicaus.
(4) Diplococcus citreus conglomeratus.
(5) Pediococcus cerevisiae.
(6) Staphylococcus cereus albus.
(7) Micrococcus cremoides.
(8) Staphylococcus cereus flavus.

Among the molds those found in the outer air and in the sewer air were exactly identical.

In the sewage, on the contrary, the lists show totally different kinds, and, as Laws and Andrewes say, without a single exception.

As for the typhoid fever germ, these investigators say that, although they used the greatest care they were not able to find it once in ordinary London sewage. Even in the typhoid fever hospital drain inside the hospital grounds, they were able to find only two colonies, and in this drain a quarter of a mile away not a single typhoid germ was found, which led them to the conclusion that they were probably killed by other bacteria who were their enemies and vastly exceeded them in numbers.

According to Roechling and other authorities, analyses of the air in the Paris sewers are regularly made at stated intervals, and it is found that this air contains on the average more carbonic acid and ammoniacal nitrogen than the street air, but only half as many germs of any kind, while disease germs are not found there at all and probably never will be. In these investigations it has been found also that the humidity in the sewers is great and practically constant.

In the air of the sewers of Berlin, Petri found that there were only a very small number of micro-organisms as compared with that of the streets. Similar results were obtained by other special investigations in sewer air.

In the sewers of London, Dundee, Westminster, Bristol and Sydney in Great Britain, where classifications of the various kinds of bacteria were made, in all the researches it has been found that sewer air is, as far as germs are concerned, very much purer than outside air, and that the germs came not from the sewage but from the outer air, that a decrease in the number of germs in the outer air was followed by their decrease in the sewer air, the kind being the same in each. In the Laws and Andrewes experiments the nature of the organisms in some 1,200 litres (pints) of sewer air was carefully determined. "Not once," they say, "was the bacillus coli communis or any of the predominant organisms of sewage found, though we have shown above that the former is present in sewage in numbers varying from 20,000 to 200,000 per cubic centimetre. If this be so, how infinitely improbable becomes the existence of the typhoid bacillus in the air of our sewers. That sewage* is a common medium for the dissemination of typhoid is certain; that sewage polluted soil may give up germs to subsoil air is possible; but that the air of sewers themselves should play any part of the conveyance of typhoid fever appears to us, as the results of our investigations, in the highest degree unlikely."

The danger from the inspiration of sewer air lies in predisposing the system to harm from disease germs coming from other sources. This predisposition is probably due to the gases given out by putrid fermentation, such as carbonic acid, ammonia, sulphuretted hydrogen, hydrocarbons and volatile fatty acids, and where illuminating gas mains run in or near sewers, from the escape in great quantities of this gas. Moreover the danger is in proportion to the concentration of these poisonous materials. This danger may be reduced to a minimum, or altogether removed by thorough ventilation.

The acknowledged freedom of the air of sewers from disease germs accounts for the immunity with which people may work in well ventilated sewers, and explains why the great Paris sewers, for instance, are so safely visited every year by large numbers of travelers from all parts of the world, with no case on record, I believe, of resulting disease.

It has been related that the most remarkably located hotel in the world was at one time built in these Paris sewers almost beneath the Madelaine church, to accommodate the municipal scavengers. The interior was said to be singularly neat and clean, and between sixty and seventy breakfasts and dinners were reported to have been served daily to the workmen therein, and these sewer laborers are as healthy as are any other class of laborers in the city.

Now our house drains and soil pipes, being much smaller and longer in proportion to their sectional area than the city sewers, and being more uniformly moistened on their inner surfaces when in use, and having more bends and angles in proportion to their length than they, are correspondingly more effective in removing any dust and bacteria which may enter them from the sewers. Hence the air of the house drains will, as must be now quite evident, and as I shall endeavor to make visible by experiments, be found to be still freer from dust and germs than even that of the sewers themselves.

Returning now to our Figs. 47, 48 and 49, shown in the June number, in these drain pipes, I experimented with various kinds of dust, from the finest dust of the streets up to fine and coarse sawdust. Dry powdered substances of various kinds, such as fine flour, whiting and cement, were also used.

In no case could any of the particles which came in contact with the wet sides of the pipes be blown off again. The bellows used to produce the air blast were large and strong and capable of driving through the pipes currents varying from a strength sufficient to blow out the flame of a candle at the further end of the longest pipes, down to a faint and almost imperceptible current.

With the short pipes it was possible to drive some of the particles through in a strong draught because these did not have time to come at all in contact with the moistened surfaces, but with pipes twenty-five feet long and one

* This is before the disease germs are destroyed in the sewers by coming in contact with the other organisms which find in sewage their natural element and which are non-pathogenic.

and a half inches in inside diameter, none could be forced through even under the strongest pressure the bellows could apply. Where bends were introduced the same result was obtained with shorter pipes.

With gentler pressures still shorter pipes sufficient to entirely filter the air of all particles, however dry and finely powdered; and, in the very slowly moving air currents found in the average sewer, it is only a question of length of travel and proportional diameter of pipe to arrest all dust and bacteria of every kind.

The same experiments were then tried with the pipes thoroughly dried on their inner surfaces. In these cases all of the dust was easily blown through all the pipes after a more or less prolonged application of the air pressure, the surfaces of bends arresting for some time some of the particles by back-eddies, but all eventually passed through.

With jointed pipes, however, as might be expected, some little of the dust and powder would be permanently retained in the fine cracks of the joints.

The interiors of the pipes were next coated with sewage and moistened, and the experiments were repeated under these circumstances with the same results as obtained in the first experiments with pipes moistened with water alone. No particles once coming in contact with the moist surfaces would ever be detached again, however strong the air current applied by our bellows.

Only the particles of dust which happened to travel from end to end in the middle of the air blast escaped from the pipes, and this, as before, only occurred with short pipes and stronger air pressures than are to be met with in ordinary sewers.

In well ventilated and constructed sewers no splashing or bursting of air bubbles would ever be encountered, and even if they were, the organic particles they then might allow to escape into the air could, as we have seen, only travel a short distance in the sewers and individual house drains before they would again be caught, and if of the pathogenic kind quickly be destroyed.

Finally the pipes containing these particles of dust of various kinds imprisoned in the moist organic refuse along their sides were thoroughly dried by exposure for several days to dry air, and then the air blasts were repeated to see whether or not the dried particles of matter caked against the walls of the pipes would give up the dust and bacteria which had been blown against them when they were wet. It was found that none of this dust escaped to float again in the air, even though thoroughly dried. Under the most powerful blasts pieces of caked refuse would occasionally be torn off the surfaces to which they would normally adhere, but these were heavy and fell directly to the ground as soon as they were blown from the pipes. The dust particles still remained firmly imprisoned in these large masses of scale and were, therefore, as powerless to do injury as if they had never been detached from the part of the pipe against which they had originally fallen. The masses containing the separate particles of dust or bacteria were therefore simply transferred from one surface to another. The reason for this is obvious. Wet sewage, containing as it does many kinds of glutinous and fatty matters, forms, when dry, a more or less pasty mass which hardens into a tenacious cake, and holds the dust and bacteria enmeshed in its mass often as firmly as it did when it was in its moist state.

Thus we see that the sewers and house drains really form vast filters, as it were, for clearing the air which passes through them of dust and all kinds of bacteria, and it is, as I have said, the province of the sanitary engineer to make the most of this wonderful provision of nature in man's behalf, by co-operating with her methods and increasing to the utmost extent the ventilation of the sewers and house drains. Accordingly we need not devise window screens to filter out the dust and disease germs from the air of the streets because the sewers and drains stand ready to perform this service for us in the very best and most scientific manner, as soon as we know enough to make proper use of them.

Millions of dollars have been spent in cities in erecting great fans, ventilating chimneys and heating plants for the sole purpose of ventilating the sewers at isolated points, with but very poor success, the action being too strong at the point of connection and too feeble or altogether imperceptible at slight distances from these points. A German scientist now proposes a plant costing between four and five million dollars for purifying the air in the streets of Boston through or with the aid of the sewers. Yet the best possible way, a way which would not only cost nothing, but which would actually save cities a very considerable part of the present cost of drainage, is year after year neglected because partly of a general misconception of the character of sewage and sewer air in relation to their micro-organisms, and partly of an insistence on the part of those having charge of the sewerage and plumbing systems for continuing complicated and costly methods in vogue in preference to the simpler and more scientific methods advocated by more progressive engineers.

By omitting the disconnecting traps and ventilating our sewers through every house drain absolutely no offensive odor could come from the sewers, and every particle of air drawn into the sewers from the streets by the suction of the warm house soil pipes would be freed from dust and germs and the air of cities be thus very largely filtered, a process which, especially in times of epidemic would produce very important sanitary benefit.

I do not say that, with such perfectly constructed and ventilated sewers as these, in the air of which chemical analysis would scarcely be able to detect a difference from that of the city parks, it would be wise, in times of epidemics to nail up our windows and ventilate from the sewers only, because the house drains and soil pipes will always probably contain foul and dangerous gases, even though copiously diluted by fresh air, which will still justify the use of our best science for its exclusion from the house, and because the smallest of our city sewers would then have to be enlarged for such service to the size of a Hoosac tunnel. But I do say that any air which might accidentally enter the house from them by way of the individual house drains would be safer to breathe as far as dust and disease germs are concerned than that which would enter through the windows.

Supposing, now, that the houses of a city average twenty-five feet in width on the street lines, if we were to ventilate the sewers through every house drain, we should have suction openings every 12½ feet into the sewers, and these drains being four inches in diameter, we should have about 12½ square inches of suction area for every 12½ feet of sewer, or one square inch for every foot of sewer in the city. For supplying the air to the sewers, corresponding street openings would be provided.

If we assume an average of twenty-five miles of streets in every square mile of a city, we should have for a city

containing 100 miles of streets about 528,000 square inches, or 3,666 square feet area of sewer ventilation, which would be equivalent to a round ventilating flue sixty-eight feet in diameter, or to 130 round flues six feet in diameter each.

Supposing the average height of the houses in our city to be fifty feet, and that the quantity of air discharged per minute through the four-inch vent ducts of the 42,240 houses in our city of a mile square be estimated.

Assuming that these ducts draw up the air at the rate of 419 feet per minute per square foot of ventilating area for an average difference of temperature in winter between the air of the house and that of the street of 30° F., and using the formula $V = 240\sqrt{\frac{h(t_1-t)}{491.4}}$ (in which V stands for the velocity of the current, h the height of the buildings, t_1 the interior and t the exterior temperature) and allowing 50 per cent for loss by friction, we have a ventilation produced by all the 42,240 ducts of 1,536,054 cubic feet of air per minute. Allowing an average of five occupants for each house, we have somewhat over 200,000 inhabitants in our city of a mile square, and our sewer ventilation would thus filter the air at the rate of over seven cubic feet per minute for every inhabitant. Or, if we make a much larger allowance for friction and assume a smaller difference of temperature between the inner and outer air, we have a sewer ventilation of, say, from one to five cubic feet per minute for each inhabitant. The warmth of the sewage produced by the introduction of warm water into the drains would, under the circumstances, produce a suitable ventilation even in the summer months.

Thus the sewer ventilation and air filtration produced by the omission of the main house trap and its vent would not only be the most perfect which we have so far devised, but it would reduce the cost of the whole sewerage and plumbing system by a large percentage, in fact over a half a million dollars in our city of a mile square, and the saving in that proportion would amount in the case of the city of San Francisco to a sum well worth considering in their present time of need.

It is now known that the body is ventilated and cleansed through countless minute pores covering the whole surface of the skin, and that to close up these pores deprives the system of the purification essential to its welfare.

The thousands of small house drains in the sewerage system of a city correspond to those pores in the animal body, and it is only a question of time when it will be equally generally recognized that to obstruct them by intercepting traps is as foolish as it would be to seal up the pores of the skin in the fear that the outer air would be dangerously polluted by the matters which the body must discharge copiously and continuously through them as an essential condition of good health.

(The End.)

OUR ILLUSTRATIONS.

Residence, St. Louis, Mo. Barnett, Haynes & Barnett, architects.

Residence of W. E. Partridge, Detroit, Mich. W. E. N. Hunter, architect.

Residence for N. W. Harris, Lake Geneva, Wis. Shepley, Rutan & Coolidge, architects. Two exterior and four interior views are given.

Public library, Evanston, Ill. James Gamble Rogers and Charles A. Phillips, architects, Chicago.

Christ church, Winnetka, Ill. W. A. Otis, architect. Two exterior views, an interior view and plan are shown.

Residence, Glen Cove, L. I. Palmer & Hornbostel and Louis Brown, associated architects. Courtesy Brooklyn chapter, A. I. A.

Detail of terra cotta cornice and upper stories of the American Trust & Savings Bank building, Chicago. Jarvis Hunt, architect.

The Borland Office building, Chicago. Shepley, Rutan & Coolidge, architects. A general exterior view and detail of entrance are shown.

The Stephen R. Hayt school, Chicago. Dwight Heald Perkins, architect for board of education. Contains twenty-four rooms besides assembly hall and gymnasium. Cost, $200,000.

The Bernhard Moos school, Chicago. Dwight Heald Perkins, architect for board of education. Contains twenty-six rooms and in addition an assembly hall and gymnasium. Cost, $210,000.

The Ilfracombe Apartment building, Chicago. John V. Fox, owner. Samuel N. Crowen, architect. The building is on Lawrence and Kenmore avenues, an attractive and convenient part of the North side. The facades are of brick with ornamental terra cotta cornice and decorations of much refinement. The outer porticos and inner three vestibules are of imported ceramic cut mosaic work. The interior is of an unusually high grade of hardwood finish and the mantels are faced with imported English and Rookwood tiles. The room divisions, dining room cabinets and library cases suggest the art nouveau in design and are very attractive. The wall decorations are on a foundation of grass cloth, book cloth and burlap. The lighting fixtures are of bronze and greatly enhance the appearance of the apartments. The bathrooms are of tile throughout and the fixtures are of solid porcelain of the best grade. It will be observed that the character of the building and fittings is such as to appeal to a high class of occupants. The cost of the building exclusive of ground was $125,000.

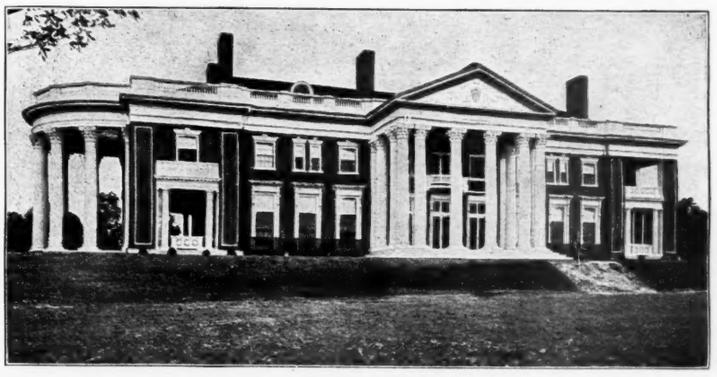
ASSOCIATION NOTES.

ILLINOIS CHAPTER, A. I. A.

The annual election, held September 10, resulted in the selection of Arthur F. Woltersdorf for president, George C. Nimmons, first vice-president; Dwight Heald Perkins, second vice-president; Peter B. Wight, secretary, and William A. Otis, treasurer. The annual reports evidenced a good condition of the finances, an increase in membership and much important work in hand and accomplished. The committee on recommendations to the Chicago charter convention was increased by the addition of D. H. Burnham, who addressed the chapter on the subject and presented some valuable suggestions. A resolution was passed indorsing the plan for competitions formulated by the committee of the A. I. A. There was a feeling, however, that the eastern members of the committee did not fully appreciate the conditions in the West, and that it was important that the western members of the A. I. A. send to the committee without delay suggestions for the competition code that will care for western interests. The chapter resolution on competitions to be transmitted to the committee on competitions, A. I. A., is as follows:

Resolved, That it is the opinion of the Illinois Chapter, A. I. A., (1) that competitions are undesirable and unnecessary; (2) that in the interests of both clients and architects, whenever possible, an architect shall be employed without resort to a competition; (3) that all rules for the conduct of competitions heretofore recommended or adopted by the American Institute of Architects or its chapters should be repealed; (4) that no rules attempting to regulate the same should be adopted hereafter; (5) but, that the institute should exert its influence for the discouragement of competitions, under all circumstances.

This chapter, however, is of the opinion that the schedule and contract prepared by the institute's committee on competitions is the best that has yet been devised for limited competitions; but that as the only kinds of competitions that the institute can not control or discourage by its negative action are competitions for public buildings, that may be provided for by law, the institute should use its influence to have the same conducted according to some modification of the committee's plan to be made by its board of directors, whenever there is an opportunity to do so.



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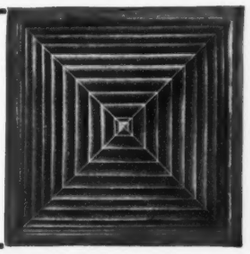

ASSOCIATION NOTES.—Continued.

ILLINOIS CHAPTER, A. I. A.

The institute can discourage competitions in only two ways: (1) by refusing to give them official recognition except as last mentioned and (2) by the refusal of its members to take any part in them, except those for public buildings, for the regulation of which its board of directors has been consulted.

This does not mean that the field should be abandoned to those architects who are outside of the institute; but it means that if its members stand up for the dignity of their profession by refusing to take part in them, competitions will become so disreputable that even their projectors will see the error of trying to get designs for buildings in such a way and will in time be disgusted with the poor results obtained.

WASHINGTON STATE CHAPTER, A. I. A.

Members of the chapter have declined the invitation of Alexander T. Carter and other citizens of Fremont to aid in the selection of a site for the coming Alaska-Yukon-Pacific exposition. This action is due to the fact that no invitation has been extended to the architects by the promoters of the fair. While no expressions have been made public by members of the chapter, it is understood from reliable authority that much dissatisfaction exists among them at this apparent slight. In declining the invitation of Mr. Carter and others the chapter sent the following letter: "Your communication of June 13, addressed to President Spaulding of the Washington Chapter, American Institute of Architects, has been carefully considered and we desire to express our appreciation of your recognition of our ability to aid in the selection of a site for the Alaska-Yukon exposition. However, in order to avoid any possible criticism of interference on our part with the work of the men comprising the committee on selection of site, who were regularly appointed by the organized promoters of the exposition, we are obliged to decline your invitation unless it be accompanied by a like request from the regularly appointed committee."

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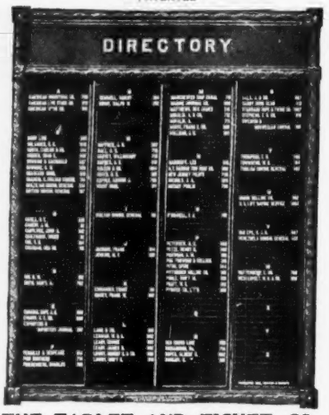

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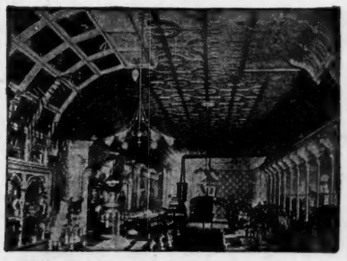

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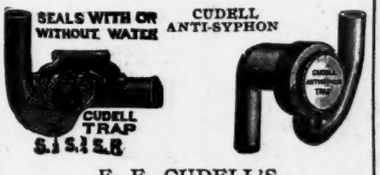

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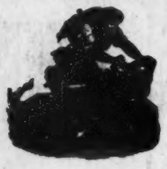

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